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# Journal of the Society of Arts.

FRIDAY, JULY 2, 1858.

## SEVENTH ANNUAL CONFERENCE.

THURSDAY, 24TH JUNE, 1858.

The Seventh Annual Conference between Representatives from the Institutions in Union and the Council of the Society, was held on Thursday, the 24th inst., at the Society's House, in the Adelphi. C. Wentworth Dilke, Esq., Chairman of Council, presided.

At the conclusion of the Secretary's report to the Council, read to the Conference, and given in the last number of the *Journal*,\*

The CHAIRMAN said, before they commenced the discussion of the subjects contained in the circular which had been issued to the Institutions,† he wished to allude to one or two points which might have some effect upon the discussion. In the first place he would refer to the circumstance of one Local Board having failed to carry out to the strict letter the arrangements of the Council with respect to the recent Examinations. The Council felt that it was hard upon the Candidates that they should suffer from any neglect on the part of the Local Board, and although, under the circumstances, it would not be just that certificates or prizes should be awarded to them, yet as, under ordinary circumstances, two of these candidates would have been entitled to prizes respectively of £5 and £3, those sums would be respectively given by the Council to them, in the shape of presents, and not as prizes. They had heard from the report which had been read that the present Council had taken steps for early submitting to their successors in office the programme and rules for the next year's Examination. So much difficulty had arisen on former occasions from a late publication of the programme, that the present Council would leave on record an expression of their opinion as to the desirability of its being sooner published in future. In preparing this programme for next year, the Council had suggested certain alterations in two or three points which appeared to them of importance; first, as to the number of subjects which the examination should include. On the last occasion there were twenty-six subjects, but on carefully considering the question, the Council came to the conclusion that it would be wise to remove from the list the drawing—both free-hand and mechanical, inasmuch as government now afforded every facility for testing the progress and proficiency of students in that branch in every part of the country, as systematically as could be done under the auspices of the Society. In place of drawing, the Council thought it would be advisable that the theory of music should be inserted. They also considered that geometry and mensuration should form one division instead of two, as at present. He would now call their attention to the first subject which had been put forward for discussion by the Conference. This was—

"At what season of the year can the Final Examinations be best held? At Easter, Whitsuntide, or at what other period?"

He might mention that in Lancashire, Whitsuntide—being the season of general holiday amongst the operative classes—was found to be an inconvenient time. In the original selection of that period, however, it had been thought that holding the Examination during the holidays

would trench less upon the time and earnings of the working men than any other arrangement. But in Lancashire especially, Whitsuntide was a time for the meetings of benevolent societies and other important bodies, and he believed that this had affected the return of the number of candidates from Manchester. Under those circumstances it was thought best to consult the opinions of the delegates on the subject. With regard to the time allowed to elapse between the preliminary and the final Examination, it was thought by some members of the Council that four weeks was sufficient. He (the chairman) was in favour of the longer period of five weeks, but that was a point in which he would yield to the opinion of the majority.

Mr. JAMES HOLE (Yorkshire Union of Institutions) wished to ask if this was a proper time to introduce a resolution upon the subject of Examinations with which he had been charged by the institutions which he represented, and which held a different opinion as to the number of centres of Examination to that which had been expressed in the report just read. It was a fundamental question affecting the Examinations, and he thought his resolution would be properly discussed before they decided the first question upon the paper as to the period to be fixed for the Final Examination. The experience in Leeds, and he believed throughout the whole of Yorkshire, had been unfavourable to the large number of centres of Examination that had been established under the terms of the last programme issued by the Council, and he was instructed to propose that the centres should be very much diminished.

The CHAIRMAN thought it was immaterial when this resolution was brought forward, but he could not but feel that it depended very much upon the localities themselves as to the number of Local Boards they found it desirable to appoint. The Council had certainly seen with regret that it had been found necessary that two Local Boards should be established both at Leeds and at Sheffield.

Mr. HOLE said the resolution he had to propose was this—

That [this meeting is of opinion that the present system of Examinations of the Society of Arts, conducted through Local Centres, would be improved by introducing the following changes, viz.: 1st. That to the Local Boards should be attached Examiners delegated by the Society of Arts. 2nd. That for this purpose it is essential that the centres of Examination should be reduced in number, and not exceed five. 3rd. That the Examinations be oral as well as by written papers.

It would be recollected that at a meeting held in that room last year, Mr. Baines attended and urged his views on this question, but the opinion of that meeting was so decidedly in favour of the system adopted in the present year, that the Yorkshire Union, who were anxious, as far as possible, to carry out the views of the Society, determined to give the system a fair trial, and used every exertion to carry it out in the best possible manner. That meeting might not be aware that the Yorkshire Union comprised upwards of 20,000 members of Institutions, and he thought the views of so large a body were entitled to some attention. As a member of one of the Local Boards at Leeds, he begged to state that whilst, in some instances, the attendance of the Examiners was required for only two or three Candidates, there was another Local Board within a short distance of them similarly occupied, and he could not but feel that this was a very unnecessary waste of the time of the Examiners, and under such circumstances it was extremely difficult to conduct the Examinations in a really satisfactory manner. Besides, it seemed too bad to ask gentlemen of standing and education to give up their time merely for the examination of two or three Candidates. He was therefore of opinion that the Society of Arts should in some way control the appointment of the local boards, so as to limit their number to such an extent as to secure a fair number of candidates for each,

\* See page 492.

† See last No. of *Journal*, p. 494.

Another thing he thought detrimental to the present system was the form in which the examinations were conducted. Under the present system of written papers it really required no great ability on the part of the Local Board to conduct the Examinations, and he thought the form should be so modified as to render necessary the attendance of men of high intellectual character. This would tend to make the examinations more valuable and more satisfactory. Under the present system it was sufficient to have persons in the room to prevent collusion amongst the candidates. If candidates knew that their examination was to be superintended by persons of high intellectual standing, they would consider it a higher distinction to work their papers in the presence of such men. He quite saw the force of the objection raised against the sending down of examiners from London into the provinces, but he thought a plan might be devised for deputing one or two gentlemen from the Society of Arts to superintend and control the examinations, upon a diminution being made in the number of centres, as proposed in the resolution he had submitted. He was happy to find that Yorkshire had taken a fair proportion of the awards in the recent examination, and he thought, both in respect of the magnitude of their operations and what they had done in the matter of the examinations, the Yorkshire Union was entitled to some weight on this subject. He therefore begged to move the resolution which he had read.

Mr. RUMNEY (Manchester Mechanics' Institution and Local Board) seconded the resolution. His experience had been similar to that of Mr. Hole. The resolution, he thought, would be a valuable one. He preferred oral examinations by the Local Boards to an examination exclusively by papers, and in another year he anticipated similar difficulties to those which had been experienced this year, and which had been referred to by Mr. Hole. In Manchester they had as examiners professors of Owen's College and another similar establishment, whose only duty was to watch for three hours over a few candidates, like mere policemen, and in some instances over a single candidate. He thought they would have a difficulty in securing the services of such gentlemen again for such an office. With regard to the time for the final examinations, he thought the examiners were as anxious to be in the country during the holidays as the pupils themselves. He was in favour of limiting the number of centres, and sending down persons from London to supervise the examinations. This could be done without great expense. He regretted the proposed change in the programme, as mentioned by the Chairman, with regard to the drawing. He believed another year would furnish a very large number of candidates in that branch in Manchester. They had already 200 young men two or three nights a week in the drawing classes, and it appeared they excited more interest than almost any other. With regard to the time for holding the final examinations, he would say, that for the district of Manchester, a more inconvenient time could hardly be selected than Whitsun week. Probably Easter would be found more convenient.

The Rev. Canon GIRDLESTONE (Bristol Athenæum), as chairman of the Local Board of Examiners, had found no difficulty in associating with him a large and competent board, comprising representatives of all classes, churchmen, dissenters, mercantile and professional men. He did not think, as far as he had communicated with persons in his own neighbourhood, that the change proposed by Mr. Hole would be acceptable. With regard to the other part of the question he hoped, for his own part, that there would be no further limitation of the number of centres of examination. He thought the more they were multiplied with discretion, the better, of course always excepting two centres in one place.

Mr. ANDREW MURRAY (Portsea Watt Institution) formed one of the Board of Examiners there with only two candidates, but he agreed with the last speaker that no difficulty was experienced in finding gentlemen of good

standing and high abilities to act as Examiners. With regard to the towns in the south of England, it was extremely undesirable to diminish the number of centres, so as to impose upon candidates the expense and loss of time in attending examinations at other places. In the populous towns mentioned, he could not understand how they could have any difficulty on the subject of examinations; with the smaller towns it might be different. He had no doubt, if the larger and more flourishing Institutions, or Unions of Institutions, would guarantee the expenses of Examiners from London, the Society would be ready to furnish them. As far as his experience of the present arrangements went, they had been found to act very well, and he wished to see no change in that respect.

The CHAIRMAN said it might be well that he should state the actual facts as they had occurred in two cases. When he visited Sheffield, he found that they had not been able to send any candidates to the London Examinations, on account of the distance and the expense; they had, however, been able to avail themselves of the Huddersfield Examinations to some extent, though even in this case the distance was found to be a serious drawback. A short time afterwards, some members of the Council attended a meeting at Brighton, at which there were present representatives of Institutions in towns on the south coast. When it was proposed to form a general Local Board at Brighton, to include these towns, the delegate from Lewes wished the meeting to understand that a Local Board at Brighton was practically no benefit to Lewes, although it was a town on the same line of railway, and within an easy distance. He could not but think that the Yorkshire Union considered the matter too exclusively from their own point of view. It should be remembered that, although it included, as Mr. Hole had observed, so large a number of members, this Union only contributed two guineas to the funds of the Society of Arts. When they considered the fact that two of the first prizes at the last Examination were gained by candidates from Banbury and Berkhamstead, it became an important consideration where such candidates could go for examination if the centres were diminished. With regard to sending Examiners from London, this had been tried at Huddersfield last year, and great difficulty was then experienced in getting even a few Examiners to go down to that place. The Board of Examiners determined that five of their number should go to Huddersfield, and this ended in only four going down, and a local gentleman acting as the fifth. If that was the result with one centre, he need not say what would have happened if six centres had been attempted, and even with this number they could not have accomplished the great end for which Examinations were established.

Mr. T. A. HEDLEY (Banbury Mechanics' Institute) said the present system had worked well in his locality, two Candidates from whence had received first-class certificates and two prizes, and he believed on the next occasion they should have a larger number of Candidates, Oxford would be the nearest centre for Banbury, but even that would be attended with inconvenience.

Rev. J. H. RYLAND (Bradford Mechanics' Institution), as president of his Institution, had taken part in the late Examination, he hoped with some success. He did not see the force of the argument that had been employed, that under the present system of Examination by papers there was a difficulty in getting men of a high intellectual standard to act as Examiners. He considered it a high honour to be asked to act as an Examiner, and there were others of the most distinguished attainments who thought the same; if it was only to watch the diligence of the young men at their books, he considered it a duty not unworthy of men of the highest education. This first year of the system must be regarded as an experiment. He had no doubt, on a future occasion, that the small number of candidates spoken of as appearing at some centres,

would be absorbed in some neighbouring and convenient centre. He considered the Society acted wisely in leaving as much discretion as possible to the authorities in the provinces. He thought the more centres they had the better, consistent with convenience. He expressed a strong opinion at the annual meeting held at Selby, as to the mode of Examination, where he knew that there was a general opinion in favour of oral combined with written Examination. In that opinion he did not share. A system of oral Examination could hardly be conducted by provincial Examiners, and must be confined to the representatives of the Society in London, and hence it would be open to the objection of exclusiveness; for his own part he should certainly hesitate to take upon himself oral Examination in his own institution. If oral Examination was to be admitted, he thought it ought only to be under Examiners sanctioned by the Society of Arts, which, of course, would involve the necessity of delegates from the Society for that purpose. He thought they had had hardly sufficient time to test the efficiency of the present system, but to his own mind it was most satisfactory. The desire which seemed to prevail in some quarters for oral Examination, would appear to have induced the resolution which had been proposed for the diminution of the number of centres. For his own part he had great confidence in what had already been done.

Mr. JAMES SPENCER (Greenwich Society for the Diffusion of Useful Knowledge) agreed with the mover of the resolution as to the desirability of reducing the number of centres of Examination. This had been a year of experiment, and the fact that it was such ought to induce them to ask themselves the question whether it was probable that in another year they would get the same class of gentlemen to act as the Local Boards of Examiners. He did not think persons of high education would be willing to attend the examination of two or three candidates. The question would naturally be asked whether the results were worth the time that was spent upon them. He believed that the candidates felt very little confidence in Examinations carried on according to the present system. Under the former system no one knew of the candidate's want of success except the Examiners themselves, but under the present system he apprehended a degree of diffidence would be felt, lest the failure of any candidate should be exposed to the world. He hoped some steps would be taken by the Council to give the Local Boards as high a character as possible. He thought it was a small compliment to say that a candidate would not travel twenty miles to get a certificate; and seeing that the certificates of the Society had been the means of advancing the position in life of the possessors of them, young men would, in his opinion, consider it worth their while to go after them. Those who sought distinction would husband both their time and their resources to obtain these valuable certificates.

Rev. J. R. CRAWFORD (Berkhampstead Local Board) said, as reference had been made to the Institution which he represented, he felt himself called upon to offer a few remarks upon the present subject, in opposition to the views of the delegates from Manchester and Leeds. He felt that if any innovation of the kind suggested by Mr. Hole were introduced, it would be at the expense of the small Institutions, and for that reason he objected to the resolution. In his own little village they had some ten candidates—young men who were employed in business all the day, and attended classes for evening instruction, in teaching which he was assisted by his coadjutor of the Grammar School. He thought if the pupils had to travel a distance to be examined, there would be a falling off in the number of candidates, although it might be an advantage to such places as Leeds and Manchester. He hoped if any modifications were introduced for the sake of the large towns, there would be no interference with the present system as regarded the smaller towns and villages, because he thought if such a change as sug-

gested was brought about, the smaller institutions would be sacrificed.

The CHAIRMAN remarked that the difficulty raised by the delegate from Greenwich as to procuring the attendance of the Local Board, would be met by the proposed alteration of the time-table. The Council felt that the time for the preliminary examinations was too extended, and hence a limitation of this had been suggested. It was felt that the Local Boards were called upon to give up more time than could fairly be expected.

Mr. T. J. PEARSALL (London Mechanics' Institution) expressed his opinion that there would be no lack of competent examiners even in cases where few candidates presented themselves. He strongly recommended the Society to persevere in the cause they had so well begun, and, with regard to oral examination, some method might be hereafter adopted to meet the wishes of those who desired it. He fully subscribed to the opinions expressed as to the disadvantage of compelling candidates to travel to a distance to be examined, and on that account he thought it undesirable to diminish the number of centres of examination.

Mr. HARRY CHESTER remarked that this subject had been very fully discussed, and he now begged to offer a very few observations upon it. The whole tenor of Mr. Hole's resolution was the reduction of the number of centres to 5.

Mr. HOLE said he was not particular as to that precise number.

Mr. CHESTER continued:—If this movement was to succeed, it was necessary that the Institutions should have confidence in the governing body of the Society of Arts. The Council had considered this subject, they had discussed it in all its bearings, and seeing their way to carry out a certain object, they did not wish to turn aside from pursuing the only course which they believed they could take, in order to adopt some other plan which they were all but certain would not succeed. If any other body could do this better than the Society of Arts, he, (Mr. Chester) said, let them do it. What was the object they had in view? To improve the education and thereby the well-being of those classes of the community who were connected with Mechanics' Institutes, Atheneums, and Peoples' Colleges throughout the country. A small knowledge of the condition of that class of the population must lead them to see that the faculties of locomotion were not within their reach. If the difficulty occurred of having only one candidate in one locality, it would be easy to transfer that candidate to some other Local Board; that had been done in some cases, and in one instance the candidate had obtained a prize. The Society of Arts above all things could not consent to reduce the number of centres. They wished to have the largest number of centres that the different localities could manage. The map which he held in his hand showed the places in which Local Boards were already established, and they extended over nearly the whole of England, and penetrated even into Wales. They had had examinations at 32 different places. He agreed with Mr. Hole that it was a pity that at Leeds and other towns there should be two boards. It would be better, for the efficiency and good feeling which ought to arise out of operations of this kind, that in those places there should be but one Local Board. The difficulties which separated persons on account of religious distinctions ought not to be allowed to operate, as they were dealing not with the process of education, but with its results. For his own part, his hope was, not that they should reduce the centres from 32 to 5, but that next year they might get from 32 to 50, 60, or even a larger number; he should not be satisfied until he saw this system in operation throughout the whole of the United Kingdom, because he was sure that if it was carried out, it would give the greatest possible impetus to education. All who were acquainted with the details of the subject knew that the master

difficulty was the want of appreciation of education. They wanted masters and means to continue education after the time of leaving the elementary schools. This was the first year they had tried this particular method, but he thought it was capable of arriving at great things. He could not think the meeting would accept this resolution, for a general desire had been expressed by most of those who had spoken that the centres should be increased rather than reduced. As to the difficulty of getting competent Boards of Examiners to act, when the number of candidates was small, he thought that objection had been very much got rid of by the speakers who had preceded him. The way to get rid of the difficulty was to extend the Local Boards, and make them permanent throughout the year, so that by counsel, by inspection, and by frequent examination, they might assist materially in promoting classes for instruction in the several Institutions.

Sir THOMAS PHILLIPS (Newport Athenæum and Mechanics' Institution) could not help feeling that this question was at the base of the whole of the operations of the Society. If they passed a resolution to limit the number of centres of examination in the mode suggested, the object of the Society to stimulate—to excite wholesome love and wholesome desire to promote education throughout the provinces must fail. It was all very well to say that young men possessing the ability to rise would make the struggle and undertake the efforts necessary to do so; but ought the Society to expose any one to additional labour by limiting the centres, and compelling candidates to travel long distances, under the embarrassing circumstances of constant employment and limited time? He held that one great good to be done by the system was this—to multiply these local boards, these voluntary associations, who would themselves feel, and would impress on others, the value of education, and it was by multiplying rather than limiting the operations of these boards that the Society would do most good. It certainly was not for the Society to discourage the formation of Local Boards wherever circumstances enabled them to be established, and it was for the localities themselves to determine whether circumstances rendered it possible that such associations should be formed. It was somewhat remarkable that the objection to the present system should come, not from the rural districts, or places with a limited number of students, but from the great hives of industry—from those places where there were the greatest number of students—that they should be opposed to the distribution of these Local Boards amongst the rural districts, and should apparently wish to confine them to their own localities. They said, in fact—"Give us Local Boards of Examiners, but do not distribute them through the length and breadth of the land." Whatever might have been the difficulties in this experiment, the attempt to correct them in the manner proposed would, he thought, impair the usefulness of the Society, and he hoped that no expression would go from this conference that it was their desire to limit so seriously the area of the Society's operations.

Mr. ALEXANDER MOLVOR (Leeds Mechanics' Institution and Local Board) thought the speakers on this subject had overlooked one important element in Mr. Hole's proposal, which was, that the Council of the Society should be represented by one or more examiners at each of the proposed five centres. He knew that this was regarded by many as very important; and though it was desirable, on the one hand, not to check the formation of Local Boards throughout the country, yet, on the other hand, it was necessary to prevent an unnecessary multiplication of them. It was easy to find in populous districts efficient men to act as examiners. Owen's College contained men of as high reputation as any of the colleges of the metropolis, and professors of other provincial colleges were men of great eminence. The Leeds Board of Examiners was composed chiefly of professional men, chemists, physiologists, teachers of natural science, and

persons of high professional standing. He thought that whilst the results might be dealt with by the Society, the process of education should form one of the functions of the Local Boards, who should exercise constant supervision over the classes in their respective institutions. He thought it was a matter of pride and social distinction, that a person should be regarded in the locality as an examiner on the part of the Society of Arts. He was satisfied that if the composition of Local Boards were properly attended to, it would be a matter of high interest to be engaged in working out so excellent a scheme.

Mr. HENRY COLE, C.B., would venture to take the opinion of the meeting upon a resolution completely opposite to that proposed by Mr. Hole. He begged to move as an amendment:—

That the Conference is of opinion that it is for the benefit of those for whom the Society of Arts' Examinations are intended, that the system of Local Boards should be extended throughout the Society's Union, wherever the locality can make satisfactory arrangements for the working of such Boards.

They often met with strange paradoxes; and to have, as they had on this and former occasions, the impersonation of extreme voluntarism contending that they could not do their own work, but must have extrinsic aid, was one of those strange contradictions that were sometimes met with in life. If he had been asked to fix upon any place where he would suppose they could do their own work, it would of all others have been Leeds; yet the representatives of Yorkshire came up to this conference with a proposition which he could not but say was rather selfish—which was entirely for the benefit of that district, and tending to the injury and disparagement of such smaller places as Pembroke and Berkhamstead, and a stultification of the principle, so much contended for in the present day, that education should be made voluntary, and that they should have as little centralisation as possible. He believed the feeling of the meeting was that it was the business of this Society to try and stimulate a feeling throughout the country that people should do their own work, and to that end it was necessary to have as many centres as possible. If he wished to run into an opposite extreme, he should say it was expedient to have not merely 50 but 500 centres, but it was the business of the Society to recommend only that which was justified by experience. He thought this proposition for five centres an undesirable one, and with that view he proposed the amendment which he had read.

Mr. STEPHEN BALDOCK (Barnet Literary Institution) having intended to move a resolution similar to that submitted to Mr. Cole, had great pleasure in seconding the amendment. The resolution he had intended to propose set forth that the meeting entertained the fullest confidence in the manner in which the Council had proceeded in the matter of the Examinations.

Mr. BARNETT BLAKE (Yorkshire Union) contended that the resolution of Mr. Hole was opposed upon fallacious grounds. It was not intended by it to limit the means of examination or the local influence which gave value to those Examinations. He could state, from a practical knowledge of the working of 120 Institutions, how the matter stood. Although at the time the Council determined upon the change in the mode of examination, the Yorkshire Union expressed an opinion as to the value of oral examination, they nevertheless lent their aid to make the present system as efficient as possible. The whole of Yorkshire was mapped out, showing the places best adapted for centres of Examination, and 12 were suggested for Yorkshire, and of that number 9 were fixed upon. The Institutions were advised as to how they had better form Local Boards, in order that every success should attend the scheme. In Halifax they had no fewer than three Local Boards.

A DELEGATE inquired how that happened.

Mr. BLAKE replied, simply because there was no control over them, and the real fact was, that there was

some little rivalry on the two sides of the water at Halifax. Were those bodies to unite in Leeds and Halifax, as they did in the first instance at Sheffield, it would give them a status and a position, and all foolish rivalry would cease. The feeling amongst some of the largest educational establishments in Yorkshire was that the departure from the oral system deprived those Examinations of their greatest value. But then it was objected on the part of the Society that it was impossible to extend the system of Examination if the personal attendance of a Board of Examiners from London was called for, and it was indispensable to have uniformity of system. He contended that there was not in the resolution of Mr. Hole the paradox which Mr. Cole had represented as proceeding from the advocates of voluntarism. The Yorkshire Union did not wish to deprive other places of benefits which they claimed for themselves. With reference to the time for holding the final Examinations, he would suggest that this should be about the first week in April. With regard to the remark of the chairman, that from the Yorkshire Union the Society only received the ordinary subscription of two guineas a year, it was to be borne in mind that a great many members of that Union paid their 2 guineas besides, and the Union would be happy to make the subscription 20 guineas if it were required, in order to make the Examinations really of value. What he felt was, that they required the presence of at least one gentleman deputed by the Society of Arts to superintend the Examinations, and to see that the rules of the Society were strictly adhered to. If this were done he felt that a higher value would be attached to the Examinations.

The Hon. and Rev. SAMUEL BEST (Hants and Wilts Adult Education Society) had pleasure in supporting the amendment of Mr. Cole. He represented upwards of 100 institutions in the southern parts of England, which were probably almost unknown to the gentlemen of Yorkshire, and they could, therefore, expect but little of their sympathy. He most earnestly hoped the plan now adopted would not be interfered with, and that oral examination, which was found practically to be impossible, would not be returned to. If it were, he believed it would be destructive of the whole efforts of the Society, and would defeat what he believed to be the really successful mode of examination that had been adopted. What they wanted in carrying out the present plan was not men of extraordinary abilities, but men of honesty and sound integrity, to see that the examinations were carried out in accordance with the regulations laid down by the Society. Having conducted this sort of examination for the last three years, he had no hesitation in saying that he found no difficulty in getting persons to act as examiners in the various institutions with which he was connected. He believed some hints had been taken by the Society from the working of the Hants and Wilts Association with respect to the examinations. He felt called upon to oppose in the strongest manner the proposition which had been made for reducing the number of centres of examination. If that resolution were carried, such places as Lymington and Berkhamstead would be blotted out of the map, and yet they were places of considerable importance in connection with this educational movement, and candidates from them had distinguished themselves. He had great pleasure in supporting the amendment proposed by Mr. Cole upon the ground that he should be extremely unwilling to cripple local exertion in any way.

Mr. HOLE (as the mover of the resolution) replied upon the discussion. He said most of the remarks that had been made had arisen from a misconception of his intentions. He did not appear as the representative of the voluntary system, but, in the present instance, he rather took the opposite side. His (Mr. Hole's) main argument on this subject was, that in proportion as they increased the number of centres, they diminished the importance of the Examinations. Last year they had two centres, this

year there were 58, but of 16 out of that number they had heard nothing at all. They had therefore only 32 effective centres. At the two centres last year they had 220 candidates, whilst at the 32 centres they had only 299 candidates.

Mr. CHESTER remarked that they had this year excluded pupils of schools. The total number of candidates from Institutions was much greater this year than last.

Mr. HOLE contended that if the number of candidates had been in the ratio of the addition to the number of centres, there ought to have been at least 500 or 600 candidates this year. With regard to the resolution he had proposed, he did not wish to bind himself as to the precise number of centres. He held that the number of centres ought to be that which would command the greatest amount of influence. He was in favour of few centres and properly qualified Examiners at each centre, and he thought such a plan would command an amount of success which they would vainly hope for under the present system. The experiment had been fairly tried this year, and he thought the results were not such as ought to be satisfactory to them. They must feel that it should not be allowed that any persons who chose should set themselves up as Boards of Examiners. He believed the expense of sending down representatives of the Society at the Examinations, with a limited number of centres, would be amply compensated by the results that would follow such a plan. He had no doubt the Yorkshire Union would readily pay £10 or £20 towards the expenses of gentlemen in whom they had confidence to conduct the Examinations. It was not his intention obstinately to contend for oral Examination, but he submitted that if they wished for success in this movement, they must decrease the number of centres, and must make the Examinations of the highest possible character.

The CHAIRMAN said they had had some little experience to guide them during the last 12 months, as regarded the Oxford Examinations. Although they charged an examination fee of 30s. to each candidate, which would naturally tend to limit the number, yet it was found necessary to establish 12 centres of Examination, which he thought was an argument very strongly in favour of increasing rather than diminishing the number of centres in connection with their own scheme.

The CHAIRMAN then put the amendment of Mr. Cole, which was carried by a very large majority.

#### I. & II.—PERIOD FOR THE FINAL EXAMINATION.

The CHAIRMAN called the attention of the Conference to the first question proposed for discussion by the Council, viz., the season of the year at which the Final Examinations could be best held? He should be glad to receive the opinions of the delegates on this subject, as the Council had no other feeling than to consult as far as possible the convenience of the Institutions.

Several Delegates offered suggestions as to the most suitable period. It was argued that Whitsuntide had generally been found an inconvenient time, owing to its being a season of holiday making, and it was submitted that the already too restricted opportunities of recreation for the working classes ought not to be still further curtailed. Various periods between Easter and Whitsuntide were suggested. It was urged that it would be desirable to hold the Examination as early as possible in the spring, and as soon as possible after the period of closing the classes which were usually carried on during the winter months.

Mr. CHESTER remarked that connected with this question was that of the periods into which the final examinations should be divided. If they reduced those periods, it would be easier to determine the time of year at which the final examinations should be held. This year it had been found necessary to extend the periods over the whole of the week, because the time tables could not be published until they knew the number of candidates to be examined in each subject, but in future the time tables

would be published with the programme, and the students could select the subjects on which they wished to be examined, and the time could be arranged accordingly. It was intended that no candidate should be examined in more than three subjects in one year, and he thought there should not be more than three periods, and if found advisable he would suggest the morning, afternoon, and evening of one day for the different subjects, when the whole business would be got through with only one day's absence of the candidates from their ordinary avocations.

The Delegates from Leeds (Young Men's Christian Institute), West Brompton, Greenwich, Battersea, and Crosby Hall, expressed an opinion favourable to evening examinations, as best suiting the convenience of the candidates in respect of their employment.

The Hon. and Rev. SAMUEL BEST, on behalf of the agricultural districts which he represented, suggested that the periods of examination should be extended over as short a time as possible.

Mr. THOMAS SORWICK, F.R.S. (Allenheads Library and Institute and Durham Mechanics' Institution) suggested that the examinations should be held as closely as possible upon the termination of the period most devoted to study—the winter months. He did not approve of holding them at a period of national holiday. He considered holidays were as essential to the working classes as study. They had too few intervals of rest, and he should be unwilling to see the established holidays interfered with.

Mr. BARNETT BLAKE, Mr. BUCKMASTER, the Rev. A. W. WORTHINGTON, and other delegates expressed themselves as favourable to evening examinations.

The following resolution was then agreed to:—

That the Examinations be held in the evening, but that the number of such evenings be left in the hands of the Council to arrange.

On the motion of Mr. SPENCER, seconded by Mr. McIVOR, it was resolved—

That the period of the year for the Final Examinations be some convenient week, to be fixed by the Council, between Easter and Whitsuntide.

### III.—MINIMUM AGE OF CANDIDATES.

The CHAIRMAN then introduced the next subject, viz., "whether the present *minimum age* of candidates, 16, shall be retained, or whether it shall be raised to 17 or 18."

A general opinion having been expressed in favour of retaining the minimum age of 16, this was, after a brief discussion, unanimously agreed to.

### IV.—IN WHAT MANNER THE LOCAL BOARDS CAN BENEFICIALLY CO-OPERATE WITH THE INSTITUTIONS IN FORWARDING THE PREPARATION OF THEIR CANDIDATES FOR EXAMINATION.

Mr. McIVOR said, at the present time the Local Boards were distinct bodies from the managers of the Institutions, and he thought it important to bridge over this separation between them. He thought this was a point which might usefully be suggested to the Institutions at large, that they should establish some definite connexion between themselves and the Local Boards. The committees of Mechanics' Institutions were chosen for the most part from persons who were competent to deal with the general business of the Institutions, but to deal with educational matters required special culture, and for that reason it was important that the Local Boards, who were composed of men of high education, should be in intimate association with the committees of the institutions. He therefore begged to propose the following resolution:—

That it be recommended by this Conference to all the Local Boards that they put themselves into communication with the directors of the Institutions with which they may be severally connected, in order to assist the formation or the continued action of classes for the preparation of candidates for the Society's Examinations.

Under the present system, the Local Boards were not re-

cognised by the Committees of Institutions, and the footing on which those Boards acted was insecure. He considered that they ought to have a recognised right to visit and make suggestions, and generally to work in harmony with the committees in promoting the welfare of the Institutions.

The motion was seconded by Mr. SPENCER.

The CHAIRMAN remarked that the object of the resolution was evidently to constitute the Boards of Examiners as more generally recognised bodies amongst the institutions with which they were connected; that in fact they should have some function beyond that of mere temporary Examiners, that they should visit, stimulate, and stir up the classes in the Institutions.

Mr. BLAKE said this resolution opened up the whole question of Local Boards. What was required was, that there should be a more special recognition of those bodies on the part of the Council, and that degree of control which should prevent the multiplication of Local Boards in the same town. He thought that examiners should be appointed with the approbation of the Society of Arts. A more systematic organization of the Local Boards might enable them to get over some of the difficulties mentioned in the early part of the discussion, and such places as Leeds, Halifax, and Bradford might have permanent Local Boards, who could be in regular communication on all matters of importance with the Secretary of the Society.

Rev. J. H. RYLAND thought the sole connection should be between the Committees of the several Institutions and the Society of Arts, and that through that connection only the Local Boards should exist. He thought this was a matter which might be left to the good sense of the several institutions. At Bradford they had appointed gentlemen to form the Local Board, which had worked very satisfactorily.

Mr. CHESTER said the question under discussion was whether the Local Boards could assist the candidates in their preparation for Examination. He hoped that what had been said that day would strengthen the hands of the council in recommending that in such towns as Leeds, where there were two Boards, they should unite and have but one. It was quite competent for them to pass a resolution that the conference is of opinion that there should be only one Local Board for each town, although it could not be made binding. It was the hope of the Council that in each year the previous examinations would become more and more important, and then he believed men, however highly educated, would feel that it was an honourable position to preside over these examinations. The Previous Examinations, to any extent the Board thought necessary, might be conducted orally, although this could not be introduced into the Final Examinations, and in that respect the wishes of the Yorkshire Union might be partly met. This resolution could only go in the form of a suggestion to the Local Boards in their preparation for the work that they would afterwards have to deal with.

Mr. F. TALBOT (Birmingham, Messrs. Chances' Library and Reading-room) suggested that great service could be rendered by the Local Boards by quarterly examinations of the students in the Institutions. By that means the candidates would gain confidence.

Mr. EDWARDS (Newington Tailors' Labour Agency Literary Institution) thought that, as far as possible, the Local Boards should be permanent, and not merely appointed for any given Examination, and then they might hope to find a reciprocal interest springing up between the Institutions and the Local Boards in aiding the classes and promoting the Examinations. He submitted that the functions of the board should not cease as soon as the business of the examination was terminated.

Mr. PEARSALL thought it within the province of the Local Boards to exercise a kind of surveillance over the educational proceedings of the Institutions.

Mr. H. WOODS, M.P. (Wigan Mechanics' Institute),



thought it better that the proposed recommendation to the Local Boards should emanate from the Council. He preferred an annual appointment of the Local Boards instead of their being made permanent, because if the appointments were found to be good ones they could easily be continued.

The resolution was then carried.

Mr. HOLE (referring to the statement of the Chairman, that it was proposed to omit the subject of drawing from the next programme) asked what were the government arrangements for the Examinations in drawing.

Mr. COLE replied that upon an intimation being sent at any time to the Department of Science and Art that 50 candidates were prepared for examination in drawing, an inspector would be sent down for that purpose. On that account it was thought unnecessary to include the subject of drawing in the Society's programme.

Mr. CHESTER remarked that the Council attached great importance to drawing, and if the operations of the Department of Science and Art, as explained by Mr. Cole, were not found to be satisfactory, the matter would no doubt be taken up again by the Society.

#### V.—LOCAL BOARDS AND PRIZE SCHEMES.

The CHAIRMAN read the next question for discussion, viz. :—

Can the Local Boards advantageously act as administrators of "Prize Schemes" for children between 12 and 16 years of age, so as to induce them to continue their instruction between the time at which they leave their elementary school and the time at which they become admissible to the Examinations of the Society of Arts.

Mr. CHESTER said, in 1854, when the Educational Exhibition was held by the Society, he made a proposition with reference to prize schemes for children, which he thought, now that these Local Boards were established, might be successfully carried out. He suggested that they should not confine their operations merely to the Examinations under the system at present established, but that they should be invited to undertake on behalf of children between 13 and 16 years of age that which they now performed, through the Society, for adults. The children of the poor were for the most part taken from school at a time when it was a mockery to talk about their being educated, and after they left school at that early age, no inducement was held out to them to continue to educate themselves. They wanted some stimulus to children between the ages he had mentioned. It might be asked, why should not children of 13 be admitted to the Society's Examinations? to which he would answer, that it was not considered desirable that the examination of adults and children should be combined. He thought, if the plan he proposed were carried out, it would excite an interest amongst the children, and operate as an inducement to continue their education after leaving the elementary schools. The distribution of small prizes would act as a stimulus, and the Examinations which he suggested would be a means of testing the various systems of education. He suggested that not prizes only, but certificates also, should be granted, and that those children who gained certificates should be made honorary members of the institutions in their localities. It would be the means of directing the attention of the children to those establishments, in which they might still further pursue their education, and at the age of 16 or 17 those who had been honorary members would become subscribing members of the Institutions.

Mr. BLAKE, having visited a great many Institutions, and witnessed their working, would say that he had found a great want of some such scheme as was now suggested. They now wanted every opportunity to point out the great value of the certificates of the Society of Arts. They wanted something which should, without interfering with what they were at present doing, be in some measure preparatory to it. In some Institutions, this had already been done, viz., holding preliminary exami-

nations on elementary subjects, and the awarding of small prizes to those who excelled. If the Council would recommend that the Local Boards should direct their attention to giving positive encouragement to those Institutions which had these elementary classes, he thought that good would be done, not merely in that direction, but also in the way of preparing candidates for future examination. He would give his testimony as to the value of some such scheme as had been put forth by Mr. Chester.

The Rev. Canon GIRDLESTONE was strongly in favour of the stimulus created by prize schemes, but he would remind the meeting that there were Boards already employed in carrying out that system in various parts of the country, especially in Bristol and in Staffordshire, and he thought the Society would be travelling out of its way if it attempted to interfere. He thought it better that the Society should devote its energies to the business it had already taken in hand; and he feared that, by interfering with that which was going on successfully under a separate supervision, it might suffer in that department to which its attention, he thought, was more judiciously devoted. Agreeing as he did entirely in the system of prize schemes, he deprecated that matter being taken up by the Society of Arts.

Mr. CHESTER begged to be understood that he did not propose to take the work out of the hands of the existing associations, but where there was no better organisation, his proposal might be adopted.

Mr. HENRY COLE said they had been reminded by Canon Girdlestone that the present proposition would interfere with existing prize schemes. There was, however, this one important element in it, that it would be a means of testing the results of education; and if they could employ the Local Boards in bringing the children together, and reducing their education to an absolute test, it would, in his opinion, lay the foundation for the best possible means for encouraging education.

Mr. J. C. BUCKMASTER (Royal Polytechnic Institution Classes) was of opinion that Mechanics' Institutions were not the places to continue the education of children directly after they had quitted the elementary schools; these Institutions were not able to carry on that systematic education which was desirable in such cases, but he thought many of them might be re-organised so as to effect those objects.

Mr. ANDREW MURRAY expressed his opinion that too often in prize Examinations it was not the most clever boys who carried off the prizes, but those to whom their parents had been most liberal in their education. He had found great difficulty in getting the mentally superior boys to come forward for Examination. In the Institution which he represented (Portsea), they had taken the boys in hand as much as possible by the establishment of classes for their instruction.

Mr. HOLE said the difficulty he had experienced was the want of teachers for these young lads. He had established a small institution in Leeds, and the only teachers that could be got were the more steady young men from the neighbouring workshops, but they did not carry with them the respect which ought to subsist between the pupil and the teacher, and hence the progress made was anything but satisfactory. What they wanted was efficient teachers in the evening schools, which, he believed, would do more than anything else to induce the pupils to attend the classes of Mechanics' Institutions.

Mr. SOPWITH considered this a most important question. In his own experience he had brought to bear the prize scheme in connection with education with great success, and this had had the effect of stimulating the young persons to continue their education up to the time when they became eligible for admission as members of the Mechanics' Institutions. Mr. Sopwith proceeded to explain the system of prizes he had adopted in the district of Durham as rewards for punctual attendance at



school as well as progress in education. The prize which was most esteemed by the children was that termed an "office ticket," which consisted of a handsomely ornamented card, which formed a certificate of merit in the subjects in which the scholars had distinguished themselves. This prize—though extremely inexpensive—was most eagerly sought by the scholars.

The Hon. and Rev. SAMUEL BEST, though entirely agreeing with the spirit of Mr. Chester's proposition, would nevertheless be sorry to see the Society interfere with the existing prize schemes and local examinations of school children. The Institutions which he represented were anxiously endeavouring to carry out the views represented by Mr. Chester. The moment the children became scholars in evening classes the Examinations were open to them.

MR. CHESTER said that Mr. Best was doing in his district that which he wished to see carried out in other places which were not as fortunately provided for.

MR. BEST considered that the Yorkshire Union, like the Association he represented, was in a position to do a great deal in this direction, and could render great assistance in working up to the point of the Society's Examinations. In his Association they had held 75 Examinations during the past year, principally of boys attending evening schools. He looked upon those Institutions as most valuable in rescuing youths at the period of life when there was the greatest difficulty in contending with the evil influences by which they were surrounded.

The Rev. J. H. RYLAND considered this was a question which addressed itself to every Institution. He must object to the idea that the influence of the Society of Arts Examinations did not extend to the humblest and youngest members of the Mechanics' Institutions. He believed that from the moment these Examinations had been mentioned, a higher aspiration had been excited in the Institutions. In the Institution at Bradford prizes were given long previous to the starting of the Society's Examinations, and a very little money indeed sufficed for the purpose; the winter evenings were made the occasions of Examinations and distributions of prizes, and he could say that those exhibitions were subjects of greater interest than the soirées of the Institution. Therefore, this proposition quite coincided with the practice that had been pursued in his own locality, and he thought that the Local Boards could very materially aid in this plan.

MR. TALBOT wished to express his approval of the proposition made by Mr. Chester.

MR. CHESTER then moved the following resolution:—

That it would greatly promote the interests of public education, and the success of the scheme of Examinations adopted by the Society of Arts, if the Local Boards should act as administrators of 'Prize Schemes' for children between 13 and 16 years of age, so as to induce them to continue their instruction between the time at which they usually leave their elementary school, and the time at which they become admissible to the Examinations of the Society of Arts.

The resolution was seconded by Mr. ANDREW MURRAY.

SIR THOMAS PHILLIPS said, having taken part in the administration of prize schemes, he would intimate what appeared to him to be some of the difficulties of the system in adapting it to the objects which Mr. Chester had pointed out. All the prize schemes with which he was acquainted were limited to children at school, and they embraced two objects—first, the promotion of a regular attendance at school, by making punctuality a qualification for examination; and secondly, the inducing a prolonged attendance at school, by requiring that candidates shall have been scholars for a given period, and for a definite number of days in the year preceding the examination. Prize schemes, therefore, as at present constituted, simply dealt with children at school, but it might be desirable so to enlarge their sphere as to admit of the examination of children not at school. At present he

did see his way to that object. He could not help thinking that Mechanics' Institutes, out of which Local Boards emanated, had been too exclusively, in many instances, under the control of one particular class of society, and nothing would more tend to give efficiency to those institutions than to introduce into them, to a larger extent, the employers of labour. Prize schemes had been hitherto administered by employers of labour, who had contributed funds to promote the increased intelligence of the people around them. Although he was not quite prepared to affirm the resolution of Mr. Chester, yet he agreed with him in the object, if it could be accomplished, of inducing the Local Boards to aid in the administration of prize schemes. He had at the present time the names of 300 children who were coming up for examination in the Monmouthshire Association. They were operating not inconsiderably in this direction, in that and the neighbouring counties, upon the class of children embraced in the proposition of Mr. Chester. At the same time he should be pleased to see the Local Boards turning their attention to promoting the education of children who were taken from school at 10, 11, and 12 years of age; but with his present experience he did not see his way to the employment of the Local Boards for that purpose.

The Rev. J. H. RYLAND wished to know through what opportunity the children would be allowed to compete in these examinations. Must they not belong to some Institution in union with the Society, before they could come up for examination?

MR. CHESTER wished the scheme to be left open as wide as possible. Let them take the children wherever they could find them of a given age.

The resolution of Mr. Chester was then put by the Chairman and carried.

#### VI.—METROPOLITAN MUSEUMS AND LOCAL INSTITUTIONS.

The CHAIRMAN then introduced the 6th subject for consideration, viz.:—"Whether the central museums and galleries in the metropolis, which are the property of the public, or subsidised from the public funds, could be rendered useful to the Institutions in different parts of the country, by systematically lending to them specimens for exhibition, or by granting to them unrequired duplicates."

MR. HENRY COLE said the Council had been induced to bring this subject before the Conference, in consequence of the satisfactory results that had attended the circulation of various specimens of art through a number of schools of art in the country. Last year they were aware that a large exhibition was held at Manchester, to which were forwarded a number of specimens from the department over which he had the honour to preside. About one thousand specimens were sent to Manchester, and not a single accident had occurred to one of them. The Department with which he was connected had also sent round to various places in the provinces a collection of the value of £10,000, to which the Queen had contributed some articles. This collection had been sent to twenty-five places, in all parts of the United Kingdom. At the present time it was at Limerick, and not a single accident or injury to any of the specimens had been reported. The collection he referred to had now been three years in circulation, without accident of any kind. The schools of art to which the specimens were sent were simply required to provide room and lighting, and a certain amount of police. An officer accompanied the collection, and in some places it had been the means of bringing a considerable revenue to the Institutes where it was exhibited. In Dublin it had drawn a sum of £200 from the public. It was unnecessary for him to state that there were duplicates and a multitude of things in the British Museum which were not wanted there, but which might form a useful migratory museum, to be circulated through the Mechanics' Institutions in the provinces. In the National Gallery, it was stated that

there were pictures which would not be required for the central collection, and Mr. Ruskin had stated that five or six collections of the late Mr. Turner's pictures might be sent round into the provinces, to exemplify the style of that great artist. He believed that, if the Institutions made a stir in this matter, there was no reason why there should not be circulating museums of the superfluous treasures of the central national collections; and his own opinion was, that if the various Institutions put a pressure upon their representatives in Parliament, the Government would be inclined to yield to the request that the provinces should have that boon conferred upon them. In France, there was hardly a provincial town in which there were not local collections or museums, which were interesting enough, but not, in his opinion, so interesting as a succession of such collections would be. On the part of the Council, therefore, he begged to press this matter upon the attention of the delegates.

Mr. McIVOR had great pleasure in supporting this suggestion.

Mr. BLAKE believed the people in Yorkshire cared very little about seeing the whole contents of the British Museum. He did not anticipate any great advantages from the proposition.

Rev. J. H. RYLAND wished to vindicate the people of Yorkshire from the character of indifference in such matters which had been ascribed to them by the last speaker. He thought a migratory museum would be very highly appreciated by the people of the provinces.

Mr. PEARSALL contended for the London Institutions being included in the proposition.

The Rev. A. W. WORTHINGTON considered it would be a great boon to the country towns to have such a collection sent round.

The Rev. Canon GIRDLESTONE proposed—

That it is desirable that the Central Museums and Galleries in the Metropolis, such as the British Museum, the National Gallery, &c., which are the property of the whole nation, should be rendered, as far as possible, useful to the Institutions in different parts of the country, by systematically lending to them specimens for exhibition, or by granting to them unrequired duplicates.

The Rev. J. H. RYLAND had great pleasure in seconding the motion.

Mr. PEARSALL proposed, as an amendment, the insertion of the words "including London," which was seconded by Mr. W. D. BOULTER (Crosby Hall Evening Classes.)

Upon a show of hands the amendment was negatived by a large majority, and the original motion was carried.

#### VII.—OPENING OF MUSEUMS IN THE EVENING.

The next proposition considered was, "Whether the conference should pass any resolutions in favour of the opening of the national museums and galleries to the public of an evening."

Mr. CHESTER had no hesitation in calling upon the conference to answer that question in the affirmative, and the resolution he would propose was—

That this Conference requests the Council of the Society of Arts to bring under the consideration of Her Majesty's Government the question whether the National Museums and Galleries cannot and ought not to be opened of an evening, in order that they may be accessible to those numerous classes of the community who, contributing towards the expenses of maintaining the National Museums and Galleries, and being well able to profit by access to them, are at present practically debarred from visiting them, because they are only open during the day.

He said that large masses of the community were virtually excluded from the great national exhibitions, from the circumstance of their being closed in the evenings. The experiment of evening exhibition had been tried at the South Kensington Museum, which had been visited by between 3,000 and 4,000 persons a week in the evenings. They were mainly indebted to the exertions of Mr. Henry Cole for that great public boon.

Mr. ROBERT RUMNEY seconded the resolution.

Mr. HENRY COLE said it might not be generally known that 800,000 upon an average annually visited the metropolis from the provinces, most of whom were probably engaged in business in the daytime. He laid before the meeting statistics which he had collected, showing that in several large manufactories within easy distances of the National Gallery, out of the hundreds of the workmen employed in these establishments very few had ever visited that exhibition, and the same with the British Museum, owing, in a great measure, to the fact that those places were closed in the evenings, which was the only opportunity that the generality of the working classes had of visiting them. During the last year the South Kensington Museum had been visited by no fewer than 488,000 persons, of whom by far the greater number had attended in the evening, the museum being open for three hours on three evenings in a week. He thought the delegates of the various Institutions would render good service by passing this resolution, and suggested that they should urge the matter upon the attention of their respective representatives in parliament.

After a brief conversation the resolution was unanimously agreed to.

#### VIII. LIST OF LECTURERS.

The remaining subject upon the paper was "Whether the Society's list of lecturers shall be republished."

Mr. W. R. KENNARD (Falkirk School of Arts) proposed the following resolution:—

That with reference to the republication of the list of lecturers, this Conference desires to express its opinion of the importance of encouraging the system of public lectures, and it urges upon the officers of the Society of Arts to give their best assistance to the Institutions in connexion with the Society, to assist them in obtaining the services of the most talented and experienced lecturers.

The delegates who took part in the discussion that followed upon this subject, expressed generally an opinion in favour of the republication of the list of lecturers. It was stated on the part of the Council that the list was prepared from the returns of the Institutions with respect to the lecturers they had employed, but that the Council could not undertake to recommend any particular lecturers, or to make arrangements for their engagement by the Institutions.

After some conversation the resolution of Mr. Kennard was withdrawn, and the following resolution, on the motion of Mr. Edwards (Tailors' Labour Agency), was passed:—

That this Conference requests the Council to republish the list of lecturers.

The business upon the paper having been concluded, Mr. SPENCER (Greenwich) moved a resolution to the effect that a separate account should be kept of the funds received from the Institutions in Union and the disbursement of the same, in order, he said, that they might judge of the amount of benefit which they derived from their connection with the Society. In his own Institution it had been questioned whether the advantages they derived were equal to the subscription they paid.

The CHAIRMAN said the account had been kept separate from the first, and had been so published in the *Journal*, as a part of the annual financial statement of the Society, a copy of which had, as Mr. Edwards was aware, been sent to every Institution. In addition to this, the Society's books were open to the inspection of every member. Upon the subject of the benefit derived by the Institutions from the union, he would inform them that the Society had this year received £540 from the Institutions and had spent upon them £1,070.

After a brief conversation the resolution, which found no seconder, was withdrawn.

Mr. H. W. FREELAND (Chichester Literary Society), with reference to the question of rating, stated that after

the expression contained in the report, the opinion of the meeting would probably be that it was not desirable to discuss it on the present occasion, but he was prepared with a resolution, if the meeting thought proper to entertain it. He would not however press it.

The CHAIRMAN remarked that the feeling of the present legislature was evidently opposed to exemptions of any kind, and he would suggest that the subject should remain in abeyance.

The matter then dropped.

Mr. BLAKE introduced the subject of the subscriptions of the institutions, and expressed an opinion that the sum of 2 guineas debarred a great many small Institutions from participating in the advantages of the Union.

The CHAIRMAN said the propriety of adopting a scale of subscription in proportion to the number of members, was a matter that would be recommended by the present Council to the consideration of their successors.

Mr. R. CRASKE (Bury St. Edmunds Athenæum) brought forward the subject of the distribution of the prize fund for 1857, which had been made a ground of complaint by him in a pamphlet circulated amongst the Institutions.

Mr. CHESTER, in reference to this matter, said he considered there had been a want of fairness on the part of Mr. Craske in not publishing the whole of the correspondence which had taken place on the subject, although requested to do so by the Council, he having withheld the letters which passed between the Council and his legal advisers, who had written threatening proceedings against the Council.

Mr. CRASKE said that a portion of the pamphlets were printed when the communication of the Council was received.

The CHAIRMAN explained that a considerable amount of the subscriptions to the fund of last year was for special purposes apart from the Examination Prize Fund, in addition to which he might state that several amounts that had been promised had not been paid. Any balance that remained from the fund of last year was carried to the account of the present year.

The subject then dropped.

Mr. BARNETT BLAKE proposed the thanks of the Conference to the chairman for the able and courteous manner in which he had presided over the business of the day, and for the exemplary patience he had displayed throughout the proceedings, which had been of an unusually protracted character.

The motion was carried by acclamation, and the chairman having acknowledged the compliment, the proceedings terminated.

## ONE HUNDRED AND FOURTH ANNI- VERSARY DINNER.

The one hundred and fourth anniversary dinner of the Society, took place at St. James's Hall, Piccadilly, on Thursday, the 24th inst. About 250 gentlemen were present on the occasion. The Chair was occupied by the Right Hon. the Earl of Carlisle, K.G., who was supported by the Master of the Mint, Vice-President, Mr. Henry Thomas Hope, Sir Joseph Paxton, M.P., Vice-President, Mr. J. Scott Russell, F.R.S., Vice-President, Mr. W. H. Bodkin, Sir George Smart, Lieut. Colonel H. C. Owen, R.E., C.B., Mr. Thomas Sopwith, F.R.S., Mr. C. Wentworth Dilke, (Vice-President and Chairman of the Council,) Mr. Harry Chester, Vice-President, Mr. Thomas Winkworth, Vice-President, Mr.

J. G. Appold, F.R.S., Sir Thomas Phillips, Mr. Matthew Marshall, Mr. Joseph Glynn, F.R.S., Vice-President, Dr. Chambers, Mr. Peter Graham, Mr. Matthew Uzielli, Mr. J. Griffith Frith, Mr. W. Fladgate, &c., &c.

At the table appropriated to those interested in the Fine Arts and Architecture, were Mr. Dyce, R.A., Mr. J. H. Foley, R.A. Mr. G. T. Doo, R.A., Mr. Lewis Haghe, Mr. George Scharf, junr., Mr. Owen Jones, Mr. G. G. Adams, Mr. F. S. Cary, Mr. M. Hanhart, Mr. J. Leighton, F.S.A., Mr. Claudet, F.R.S., Mr. T. A. Tefft, (United States), Mr. G. Clowes, Mr. E. Clowes, Mr. A. Edgar, Mr. J. C. Deane, Mr. George Godwin, F.R.S., Mr. H. G. Bohn, Mr. J. Bell Sedgwick, Mr. F. Joubert, Mr. Henry Pollock, Mr. Henry Mogford, &c., with Mr. John Dillon as Chairman.

At the table appropriated to the Committees of the Society, were, among others, Mr. W. Coulson, Mr. Holmes Coote, Mr. Joseph Toynbee, F.R.S., Dr. Chowne, Mr. William Adams, Mr. Brodhurst, Mr. Vasey, Mr. R. W. Tamplin, Mr. Frank Buckland, Mr. T. B. Curling, Mr. George Critchett, Mr. J. R. Traer, Mr. James Glaisher, F.R.S., &c., with Mr. James Luke, F.R.S., as Chairman.

At the table appropriated to the Institutions in Union, were among others, Rev. Harvey Godwin, Rev. J. Morgan Cowie, Professor Williamson, Professor Mariette, Rev. Charles Mackenzie, Mr. Alexander McIvor, Mr. Ivan C. Jenkins, Rev. J. H. Ryland, Mr. Andrew Murray, Mr. Rumney, Mr. Honey, Mr. W. D. Boulter, Mr. William Hughes, &c., with the Rev. Canon Girdlestone as Chairman.

At the table appropriated to Engineering, Commerce, and Manufactures, were among others Mr. R. L. Chance, Professor Leone Levi, Col. Hamilton, Major Schoones, Colonel Andrews, Mr. Benjamin Fothergill, Mr. T. R. Crampton, Mr. John Braithwaite, Mr. C. W. Siemens, Mr. W. Hamilton, R.N., Mr. Alexander Redgrave, Mr. G. Myers, Mr. A. Salomons, Mr. J. R. Lavanchy, Mr. Henry Sich, Mr. Stephen Lewis, Mr. W. Atkinson, Mr. W. Westly, Mr. Joseph Fenn, Mr. T. N. R. Morson, Mr. Hyde Clarke, Mr. P. L. Simmonds, Mr. T. Aston, &c., &c.

Grace having been said by the Rev. CHARLES MACKENZIE,

The CHAIRMAN rose and said—Gentlemen,—I give you "The health of Her Majesty, the Queen." I sincerely trust, as, indeed, I heartily believe, that her Majesty commands the devoted loyalty of every class of her subjects; but I am also convinced that her qualifications and virtues are appreciated in proportion as those subjects are intelligent, educated, and refined. "Her Majesty, the Queen."

The toast was drunk with the customary honours.

The CHAIRMAN.—The next toast comprises—"His Royal Highness the Prince Consort—President of the Society—the Prince of Wales, and the rest of the Royal Family," and with reference to the Royal personage who is specially connected with this Society—the Prince Consort—I will merely observe that the services of His

Royal Highness to the Arts, the Sciences, and the Manufacturing Industry of the country, so far from being merely superficial and clap-trap, will be found to be solid, truthful, and enduring. I beg to give—"His Royal Highness the Prince Consort, the Prince of Wales, and the rest of the Royal Family."

The toast was drunk with loud cheering.

The CHAIRMAN again rose and said—Gentlemen,—In now having to call your attention to the toast which more immediately concerns the purpose which has assembled us here together, I really feel that some excuse to you is due in consequence of that toast being entrusted to a person who, for peculiar reasons, and his previous absence from this country, probably knows less what to say about it than almost any one of those whom he has the honour to address. When I allude, however, gentlemen, to my absence from the country and from the sphere of the operations of this Society, and from this metropolitan centre of art, I do not mean to convey that I have been exiled, like the poet Ovid, to a barbarous country—on the contrary, gentlemen, one of the last duties I had the honour of performing in the sister country was the inauguration of the statue of the great lyrical poet, Moore, in Dublin. I trust, also, that I have bequeathed a project of erecting another statue in the same city—one to Oliver Goldsmith. (Protracted cheering.) Now, gentlemen, will you do as much for the statues of our poets in London? (Renewed applause.) I am very happy, too, in the presence of our friend Mr. Deane, to bear my testimony to the beautiful architecture with which his father and his brother have adorned the metropolis of Ireland. However, gentlemen, for the reasons I have mentioned, I feel myself less able than almost any one of you to give you any succinct account of the recent operations of this Society. I do not feel called upon so delve into its remote antiquity—time-honoured as its annals have proved themselves to be. It will be sufficient for me to advert to the impetus which your Society has lately given to that which is justly considered as one of the leading movements of the day, the system of public examinations. I know that a great object with your Society has been to promote the formation of classes for instruction, not as a substitute, but as a useful and even a superior supplement to the desultory delivering of lectures; and I believe this promising system is very mainly owing to the zeal and energy which were displayed upon the subject by one of the members of your Council, Mr. Chester. (Hear, hear.) As an inducement to the formation of these classes for instruction, the Society of Arts has instituted a system of examinations, and give certificates for three different grades of merit. Now, what has been, briefly, the progress of this experiment? I find that when the offer was first mooted, it was responded to by only one candidate. In the next year, 1856, the first examinations were held in London, upon which occasion 52 candidates attended. It was found that the various Mechanics' Institutes throughout the country which had been affiliated with this Society found it inconvenient to send their respective members up to one single centre of examination in London; and, in the next year, 1857, two central places of examination were adopted, London and Huddersfield, the latter happening to be the headquarters for that year of the Yorkshire Union of Mechanics' Institutes. 80 candidates attended that year in London, and 140 in Huddersfield. As, however, these two centres of examination were found very inconvenient for those who wished to attend the examinations,—members of the 320 Institutions associated with this Society, and scattered through the length and breadth of the United Kingdom,—it was thought advisable to adopt a scheme which would very much dispense with that inconvenience, and it was determined to hold the examinations simultaneously in various places through the whole extent of the union wherever the local bodies were provided with the necessary organisa-

tion; and it was settled that the examinations were to be conducted wholly by papers. Fifty-eight Local Boards were established, at forty of which candidates have in the present year presented themselves. The list of prizes and certificates has been published, and it occupies a goodly space in the publications of this Society, and as a living instance is worth a good deal of paper, I am happy to say that we have at this board a gentleman partaking of our fare (Mr. Wicker), who, in the modest position of an apprentice in the Dockyard at Portsmouth has carried off three prizes at the recent contest. The labours of the Society have by no means been confined to the subject of examinations. Among the important subjects which have attracted its notice since the last anniversary I may enumerate the consideration of the law of Artistic Copyright, in reference to which, I believe, there is a scheme in a great degree of forwardness, and which I hope may be submitted to the legislature. It has also had under its consideration the means of securing the durability of gutta serena, and the cheap production of aluminium. Now, with reference to the more general subject of art, which it is the special province and object of your society to foster and promote, I think there is no doubt that, with some drawbacks and exceptions, it is impossible not to feel that a great general advancement has been made in the public taste and refinement. I think indications of this are to be perceived in the exterior of our dwellings, in the decorations of our apartments, in the forms and fashion of our furniture, in our plate, in our porcelain, in the increased taste for painting and for sculpture—and I may, I am sure, allude to that gay concave and that starry firmament now above us. Of course all exteriors and all interiors will not be so happy and so admirable in their execution as either the Museum at Trinity College, Dublin, or the St. James's Hall, of London. True art, like every other good thing, must always to a certain degree be accompanied by its conceits and its quackeries; but allow me to say that the very existence if the imitation proves in some degree the presence of the reality; and I feel sure, that never, as a country, were we less liable to the accusation of being indifferent to the high claims of art and of literature. This, gentlemen, happily is not the place for the introduction of any topic even bordering upon politics, for it seems to be a certain law in politics that there is always something bitter or disparaging to be said about either things or persons. I may still, however, be permitted to remark that two of the highest and most important offices in the present administration of the country are filled by gentlemen most distinguished in literature. I turn to the most eloquent orator in the House of Commons, and I find Mr. Gladstone devoting his leisure not merely to elucidate the consummate merits of the prince of poets, but to trace and illustrate the connexion between the veritable traditions of antiquity and that scroll of heavenly revelation which is the charter of hope and the blessing of the whole family of men. What then, next, is all but the latest addition to the ancient peerage of this realm? Why the most eminent of historians—Lord Macaulay. Now it seems to me that these particular cases go far to show that literature, at least, has in our days obtained its due recognition and honours in the state. It is the more special object of your society to encourage and increase a relish and reverence for art among the masses of our countrymen; and I trust that under the joint ennobling influences of literature and art, our glorious old England, which has so many other titles to greatness, is destined to fulfil all the highest missions of civilisation. I beg to give "Prosperity to the Society for the Encouragement of Arts, Manufactures, and Commerce."

The toast was drunk with protracted cheering.

MR. C. WENTWORTH DILKE (Chairman of the Council) said it would ill become him to detain them more than a few seconds in acknowledging, on the part of the Society, the graceful manner in which their eloquent chairman

had introduced this toast. For his own part he might state that his star of office in the Society was fast waning, but he could not but say that he had never been associated with a body of gentlemen who were more anxious than his colleagues in the Council to promote in every possible way the advancement of Arts, Manufactures, and Commerce. He ventured to assert that although some errors might have been made, they were errors of judgment, and not errors of intention.

SIR THOMAS PHILLIPS said he had been entrusted with the toast of "Prosperity to the Institutions in Union with this Society." Unless he had deceived himself very much, the Institutions in Union were calculated in time to produce a very important effect upon the education of the artisans of this country. The object, as he understood it, of this Society in associating with itself the various Institutions connected with the instruction of the working classes, was to systematise the advantages offered to them in these various Institutions, and to afford to the individuals in them the opportunity of systematic examination, and, where they deserved it, of appropriate reward. But very few years had passed since this scheme of the Society was promulgated, and, considering the necessary difficulties that presented themselves to the carrying out in the length and breadth of the land an organisation so important as that which they had sought to establish, the success that had attended it was no unsatisfactory omen of its future importance. The noble earl in the chair had told them that two years ago one single candidate only presented himself for examination. This year, however, more than 500 young men were reported to the Society as being qualified to be examined in one or other of the subjects included in the Society's programme. Three hundred, or nearly that number, came up for examination, and, he believed, but for accidental circumstances, connected partly with the period selected for the examination, and other matters which did not affect the merits of the candidates, 400 persons would have been examined. Of those 300 who came up, 199 were certified to be deserving of the Society's certificate, and those 199 successful competitors took away 360 certificates. Now, he could not help thinking that although that was an inconsiderable number compared with the number of young men who were seeking to prepare themselves for the active duties of life by self-culture throughout this country, it was nevertheless no unsatisfactory indication of the extent to which this movement might at no distant period be carried. When they looked around them, and beheld in their own times and in the generations now past, the distinguished men that had risen from inferior positions of life—acquiring well-merited distinction by their own unaided powers, and the faculties which God had given them, he was sure they would not regard any estimate too high which might be formed of an Institution which laboured to give stimulus and encouragement to their praiseworthy efforts. What would George Stephenson have given for the educational advantages enjoyed by young men in the present day? What would men who had risen like George Stephenson—and he believed there were not on record circumstances more interesting than those which surrounded the life of George Stephenson—what would men like him have given if they could have obtained that amount of assistance which the aid this Society offered gave, and if they had known that at the age of 16 years those advantages were open to them. They lived in times when the economical pressure of the age limited rather than extended the period of school life. It was most deeply to be deplored. Those who thought most upon the subject doubted most whether the period could be extended. They could hardly hope to extend it while the pressure of necessity compelled parents to send their children out into the world to assist in supplying the general wants of the family. Therefore it was of the deepest importance that—having sown the seed in early life—in the school life, they should afford, as far

as in them lay, the opportunity of continuing that training and that culture during the period of active labour. That could only be done by means such as this Society afforded, or rather the means afforded by the local Institutions; and here it was that their assistance and suggestions seemed to be of the utmost importance to these local bodies. He himself had the honour to belong to a local Institution in a part of the country where he was sorry to say that adult instruction was pursued to a very inconsiderable extent, but no one could doubt, from the activity that prevailed throughout the country—from the circumstances connected with these Examinations—from the character of the persons who had succeeded—from the position in life of many men who had obtained first prizes—that they were sowing seed which would at no distant time produce to them a rich harvest. He would not detain them longer. The noble chairman had directed their attention to the fact that they had in the room a young man of well-merited distinction, and he hoped such an example would act as a stimulus to others in the same walks of life to seek to earn the distinction he had gained. He begged to propose "Prosperity to the Institutions in Union with the Society of Arts."

The toast was drunk with cheering.

The Rev. Canon GIRDLESTONE said it was with sincere satisfaction he rose to tender the thanks of the provincial Institutions in connexion with the Society of Arts for the honour done them by the present toast. It had been observed during the course of the morning's proceedings, and, he believed, in some degree questioned,—what benefits the Institutions derived from their connexion with the Society of Arts. For his own part he spoke his own feeling, and, he believed, the feeling of the great majority, if not of all, the representatives of the institutions, when he said that it was impossible to calculate the advantages which they in the provinces derived from the connexion with this central Society. He thought they had only to look to that topic which had been already adverted to, viz., the system of examinations which had been instituted in connexion with this Society, to see at once the great advantage which they derived from their union with it. He had also to express the deep gratitude he felt for what the Committee of Council on Education had done in this great cause; but if there was in this country one class more than another for whom little had been done in the way of education it was the middle class. He, therefore, hailed with the greatest satisfaction this movement which had emanated from the Society of Arts, and he believed if it was carried through with the zeal with which it had been commenced, it would do an incalculable amount of good in stimulating competitive examinations in the Grammar Schools and other establishments in which the middle classes for the most part received their education, and in this respect he regarded the connection of the provincial associations with this Society as a great advantage; even in the mere matter of money—although, of course, guineas were but a poor measure of the value of this privilege—yet in the mere matter of money alone, the Society had done quite as much for the provincial institutions as the institutions themselves had done for the Society of Arts, and, indeed, much more. But passing from that which was gone by to that which was still to come, he did hope that if those resolutions which had been passed in the morning were carried into effect, if they were permitted to meet again at the close of another year, they would have to perform a still greater act of gratitude to this Society. He would take this opportunity of impressing upon the gentlemen who formed the Council of the Society, that no greater boon could be conferred upon the middle classes of the provinces than enforcing upon her Majesty's Government the great desirability of first of all opening the various public museums of the metropolis in the evening to the middle and the labouring classes, and, secondly, that some portions of

what might be called the superfluous wealth of those museums should, in some sort of manner, be made to minister to the advantage and instruction of the provinces. He confessed that as a minister of that word which the noble lord in the chair had so eloquently described as the great charter of the whole family of man, he hailed with the greatest gratitude, as the handmaid of religion, the progress of science, art, and education. In no case was religion more thoroughly brought to bear than in those operations which were under the influence of the Society of Arts. Therefore, he had no hesitation, as a minister of the Gospel, in tendering, as the representative of an Institution in one of the most ancient cities of the country—Bristol—his gratitude to the Society for permitting the union which existed between them, and in thanking the company most sincerely in the name of those representatives of Institutions by whom he was surrounded for the honour they had done them in drinking this toast.

Mr. HARRY CHESTER said:—Any stranger attending the Conference which took place that morning, would probably have gone away with the impression that the only matters upon which the Society concerned itself were those connected with the education of the people; and although he would have seen that the largest interpretation was given to that term, that they considered it to include not only the instruction of the people, but likewise all that concerned their social and industrial position; he might have been tempted to ask why it was that the Society for the Encouragement of Arts, Manufactures, and Commerce concerned itself so anxiously with the education of the working classes. The answer to that was that they knew there was no means by which they could carry out the chartered objects of the Society so well as by laying deep and extending the foundation on which all improvements in arts, manufactures, and commerce must depend. But they did not confine themselves to education, they dealt with every kind of subject which could be reared on the superstructure of that foundation. He had been requested to propose that they should drink to the health, and wish success to the labours, of those gentlemen—a very numerous body—who formed the various committees of the Society of Arts. He thought his powers of arithmetic would fail if he attempted to tell how many members were serving upon their committees; but he wished them to bear in mind that as the Society of Arts was a multifarious and omnivorous body, which concerned itself with all kinds of subjects, it would be impossible for any body, limited as the Council must be, to discharge one-tenth of its functions, or to touch one-tenth of the subjects embraced by it, unless they were assisted by some extraneous organisation co-operating with them. Those committees (said Mr. Chester) are, in fact members of our body. They are our means of locomotion, our wings and feet, which enable us to pervade all sorts of subjects. They are our tentacula, which enable us to feel our way, to feel where we can safely go, and where we had better withdraw. They are the prehensile instruments, which enable us to lay our hands on things and persons. They are our stomach, in which all sorts of things are digested and brought into proper condition to be dealt with by the Council. Some of the subjects with which the Society is dealing have been already alluded to. Your lordship has mentioned the Artistic Copyright Committee, presided over by Sir Charles Eastlake. I may further mention that we have a committee which has prepared a report about to be circulated to the Institutions and Chambers of Commerce in Union, on the subject of a Small Parcels Post. The Society desires to have it well considered whether the facilities afforded by the Post Office for the transmission of letters might not be extended to the transmission of small parcels. There is another committee which is engaged on a smaller and more humble, but yet useful subject, the invention of a good portable writing-case for soldiers, sailors, and emigrants.

There is another committee dealing with the very important subject of Gutta Serena, investigating the causes of its decay, and pointing out the nature of the defects to which that substance is incident, and the remedies to be obtained for them. Another committee is engaged in considering whether in the suburbs of this metropolis and in the provincial towns, galleries, and museums in connection with the great central National Gallery and Museums of the metropolis might not with advantage be formed. Another committee is employed in dealing with the subject of Aluminium, and another with the subject of Surgical Instruments, and this last is the committee to which I would direct your particular attention, because I have been instructed to couple with this toast the name of the gentleman who acts as the chairman of that committee, Mr. James Luke. I believe those most conversant with surgical instruments, are of opinion that they are not in that advanced state of perfection in which they ought to be; that sufficient prominence was not given to that department in the Exhibition of 1851, and that the time has arrived when special attention should be directed to that subject. A large committee is, therefore, engaged in considering their present state, and how they may be improved. That subject has been considered worthy the attention of the most distinguished members of the medical profession, and those gentlemen have done Mr. Luke the high honour to request him to preside over them. That is an honour which he may justly be proud of, for it is no small distinction for a gentleman to be selected by a large body of his own profession to represent them in this most important matter. I am sure, therefore, you will with great pleasure drink "The Health of the Committees of the Society, coupled with the name of Mr. James Luke, the Chairman of the Committee on Surgical Instruments." (Much applause.)

Mr. JAMES LUKE said he felt that in attempting to return thanks he had undertaken an extremely difficult task, because there were so many different sections composing the various committees, and he could only very imperfectly represent that with which he was more immediately connected. He felt that it was unnecessary to enlarge upon this toast, because so much had been said already upon the general characteristics of this Society, that even if he felt inclined to lengthen his remarks, they would be but a repetition of those which had been offered by preceding speakers. He could only say that the various members of the committees were most anxious to carry out the tasks entrusted to them by the Council of the Society, and, having said this, he could only add the expression of their sincere thanks for the honour now conferred upon them. (Cheers.)

Mr. J. SCOTT RUSSELL, F.R.S., then rose and said:—My Lord and Gentlemen,—I have great pleasure in proposing the toast which has been placed in my hands this evening, and I am sure you will have great satisfaction in hearing that the speeches appropriate to the toast have already been made by my predecessors, so that it is not now necessary for me to make any long preface to it. The toast which I have to propose is "The Society's Examiners" in those educational examinations of which you have heard so much to-night. The noble lord in the chair has informed you that one of the most important functions which the Society now performs is that of encouraging, through its associated Institutions, education in the provinces. In short, from the experience I have had of now nearly 20 years in the working of this Society, I may say that whereas hitherto the Society has chiefly devoted its attention to the arts and inventions which the talent of the working classes of England has produced during the past century of its existence, it has now turned from the cultivation of the inventions themselves to tilling and manuring the soil out of which these inventions grow. It is a modern revelation of chemistry that you can take nothing out of the land but what you put into it. It is a modern revelation of physiology that you cannot take a quantity of



work out of a man unless you put a corresponding quantity of nutritious food into him; and it is also a very recent discovery, due, I believe, to those wonderfully multifarious committees of the Society—that you cannot take inventions out of a man's head unless you put education into it. Now, the experience of the past century of inventions produced before the Society of Arts, and rewarded by them, and the experience and my own knowledge for the last 20 years of the working of the Society, enables me to say this—that that Society has rewarded an enormous number of good inventions, but that it has discouraged at least ten times that number of bad inventions; and that in almost every case the good inventions have been produced where science was superadded to practical knowledge, and that the bad inventions have been produced, and the time of the producers and of the Society wasted, when the inventions were made by practical men who were ignorant of the theoretical principles of those inventions, or by theoretical men totally unacquainted with the practical portion of the subject to which they directed their attention. Now, it is hopeless on the part of the Society to attempt to knock practical knowledge into the heads of scientific men. That is quite beyond their sphere, and I believe beyond the sphere of anybody else, so they have taken to the other duty—that of endeavouring to engraft upon the strong, robust stem of the workman, of the practical man, the graft of education, of knowledge, of the addition, in short, to the experience of the hard-working practical man of that which is called science, but which is merely the experience of all other men added together superinduced upon his. Now, then, I think you will say that in doing this the Society of Arts has come to a very practical conclusion, and a very scientific way of producing practical inventions by the true combination of science with practice. And allow me to say, as having had the good fortune to receive the education of a thorough working man in my youth, and to have had superadded to that the blessing of a university education, permit me to say, after having superintended more or less for the last 30 years the labours of multitudes of men, that I do not know any way in which you could forward the interests of Great Britain more properly at the present moment than by assisting in the education of the working mechanics and practical men of England; because, let me tell you, there is no man so good a workman—there is no man who gives you so large a day's work in return for your day's wages, as your practical workman, who knows the principles of what he is about. Let me tell you, also, that the practical workmen of England are in a little more danger at the present moment than they think for, and the reason is that education in other countries has been—I do not say is—has been making more rapid progress in the last 12 or 15 years than it has been making in England; and allow me to tell you that the German workman in every skilled craft has been making during that time enormous progress, and I may add enormous inroads upon the English workman. Permit me to tell you that there are in this country 86,000 German workmen in the most skilled departments of trade, for no other reason than that they can learn in certain schools of art and working schools in Germany a great deal more of mathematics, of chemistry, and of theoretical mechanics than our own workmen possess, and when we try to get a skilled foreman on reasonable terms, we are generally obliged to take a foreigner,—usually a German. I say this is a great pity, because there is not in the world a finer workman—a man prouder of his work—a man abler to do work in the most finished, solid, substantial, permanent manner, than the English workman, and he only wants that you should do him justice. I say *you*; I will tell you why I say *you*—that you, the educated, and governing, and leading classes, should do him justice,—to be all that you could desire. I say this, because it is the upper and governing classes in Germany and elsewhere that are providing this education for their workmen. It is not the workmen themselves;

therefore, if you want our workmen to keep pace with them, you, the educated; you, the enlightened; you, the metropolitan employers—you must try to do all in your power to extend education among the working men of England. Now, I am happy to say, that the Society's Examiners are a set of educated men, scholars, gentlemen of high reputation, who are devoting themselves to co-operate with you in the most admirable manner, in stimulating, encouraging, singling out, and rewarding all those young men who, under the tuition of the local societies in connection with the Society of Arts, are now very numerous and very successful. Mr. Chester has told us—than whom no one is more competent to form a correct opinion, and who, I believe, had the principal share in pushing on this educational movement—he has told us that the examinations of the present year have been most successful, and, therefore, I propose that we return to the Examiners, on behalf of the working classes, whose interests they have so much promoted, our best thanks for the services they have rendered to the community and to us in the course of the examinations of the present year, and, coupled with that toast, I beg to give the name of a gentleman who is intimately connected with the education of England, and a thoroughly practical man in these matters, the Rev. Morgan Cowie. (Loud applause.)

The Rev. MORGAN COWIE returned thanks. He said many of the examiners had been, and still were, connected with education in different places, and they took great interest in this movement which had been taken by the Society, and felt happy in being able to give their time and such talents as they possessed to forward so excellent a scheme. He felt that they were acting as loyal subjects to the Queen in promoting, as far as they could, any plan which elevated the working classes of the country, or which had a tendency to do so. The results of the examinations, he might say generally, were extremely satisfactory, and the number of candidates had considerably increased. He was not one of the examiners till the present year; therefore, he was not competent to make any comparison with former years. In geometry he had very fair results indeed, and also in algebra, which was not a very attractive study to young men of this class. He believed there was still room for improvement, and he hoped in future years to see the system grow. He would not detain them longer than to express, on behalf of his brother examiners and on his own part, their thanks for being permitted to assist in this important work. (Cheers.)

The CHAIRMAN gave as the next toast “The House of Commons.” It was only right (his lordship said) that they should show their respect for those who represented them in parliament, and he begged to couple with the toast the name of Sir Joseph Paxton, with respect to whom he would merely observe that all the world had had the means of becoming acquainted with his general claims to respect and admiration, but he (the chairman) had had special opportunities of estimating the sterling qualities of his heart and virtues of his life. He begged to give “The House of Commons and Sir Joseph Paxton.” (Drunk with loud cheering.)

Sir JOSEPH PAXTON said he could have wished that the duty of returning thanks for this toast had devolved upon some more distinguished member of the House of Commons than himself; but although he was only a humble member of that house, he believed he could duly appreciate the advantages which this country, and he might say the world, derived from having a deliberative assembly so free and so practical as the British House of Commons. It was true that latterly their course had been somewhat eccentric, but he had no doubt that in time the machinery would bring itself right, and they would go on in the ordinary course of legislation. With regard to commerce, he might say that during the last 15 years the House of Commons had been treading in the right direction by liberating it as far as possible from



every trammel. With reference to manufactures, he was sorry that the government had anything to do with them, for the only things they manufactured were arms, cannons, and ammunition, and those were not matters very intimately connected with the progress of the Society of Arts. But with regard to art and invention, he felt that the House of Commons had behaved in a manner suitable to the importance of the subject, with, he might say, one or two exceptions. There was one exception with regard to the Patent Laws. He maintained that it was wrong—that it was unjust, that a man's brains should be taxed—that the inventions of his mind should be placed under the ordinary taxation of the country, and the produce of that tax applied to the ordinary purposes of the State. He contended that if any tax of that kind existed, it ought to be applied for the purpose of advancing the interests of arts, science, manufactures, and commerce; and he thought it was a disgrace to the present age that this revenue should be employed for the ordinary purposes of the country. The House of Commons had always very readily voted money for the maintenance of the British Museum and other establishments for the promotion of art in this country. There was only one thing that they had set their minds against, and that they had done most pertinaciously,—that was against any grand centralization at Kensington. He did not now discuss whether in that they were right or wrong, but he was happy to say that the connection between the Royal Commissioners of the Exhibition of 1851 and the Government was about to close. He believed in a very short time the government would have their money, and the Commissioners of 1851 would be free to act upon their own resources; he hoped they would then see something worth having after the great delay which had taken place. He hoped the Royal Commissioners of 1851, having slumbered for six years, would eventually rise up triumphant for some great good. About 10 years ago they would remember that Europe was the scene of anarchy and bloodshed. Almost every continental city, with but one or two exceptions, was the scene of political disorder and riot. About that time, or a little after, the notion which first emanated from the Society of Arts, for the Exhibition of 1851, was brought forward. Whilst, in 1848, the continent was in the midst of bloodshed and confusion, in 1858 there was nothing talked about but war with our neighbours. He hoped to see some sort of parallel between the two epochs, and that out of war's alarms some other object should arise upon which to centre their ideas and their exertions. On that account he confessed that he felt a little surprised, that neither by the noble lord in the chair, nor by his friend Mr. Chester, nor by any other gentleman connected with the Council of the Society, had a single word been said upon a point which was brought before the public a little while ago, and which was much talked about at the time, viz., an Exhibition in 1861. It did appear strange to him, that after the Council had deliberated and decided upon this point—and he must tell them that, as a vice-president of the Society, he had attended nearly all those meetings—that having deliberately decided that it would be advisable to have an Exhibition in 1861, to which he gave his most hearty concurrence,—he said it did appear strange that not a word had been said upon the subject that evening. By some it was argued that it was too soon after the Great Exhibition, and he believed the proposition fell upon the ears of many persons rather flatly. But he thought if it had been fairly set forth to the public—if circulars had been sent round to the various institutions in connection with the mother Society, they would have heard a little more about the project for '61 than they had heard that night from the governing body of the Society. He had no wish to divulge the secrets of the Council, but he should like to tell the present company what sort of an exhibition the Council proposed to have in 1861. Such an exhibition

as that of '51 of course was not contemplated. Another such exhibition, probably, would not occur within 100 years, but an exhibition of a character different from that of 1851,—such as would seem to mark the progress of the time, and give manufacturers and those connected with art and science an opportunity of collecting their productions. For such a purpose he submitted that an interval of ten years was sufficient to elapse between such exhibitions. They were aware that the French, who began with exhibitions 30 years ago, had repeated them every 5 years, and certainly if the people of France saw it was to their interest to hold quinquennial exhibitions, it must be to the interest of this, the greatest manufacturing country in the world, to have similar exhibitions at least every 10 years. Therefore, he had hoped that they should have heard some little word dropped about this matter; but, perhaps, the silence that had been maintained upon it portended some great event that was looming in the distance. He hoped, however, the proposed opportunity of marking the progress of English arts and manufactures would not be lost to this Society and to the country. (Much applause.)

Mr. CHESTER said he had been requested by the Chairman of Council to say a very few words in reply to what had fallen from their colleague in the Council, Sir Joseph Paxton. It was hardly fair, he thought, to find fault with him (Mr. Chester) because he had said nothing about the proposed Exhibition of 1861. It had occupied a large share of the attention of the Council, and what had fallen from Sir Joseph Paxton came with as much force as if it had been stated by any other member of that body. Sir Joseph had told them that he had taken part in the deliberations on this subject, and certainly no one was more entitled than he was to speak upon it, and to act as the mouthpiece of the Council on such a matter. Therefore, all that Sir Joseph had said with regard to an Exhibition for 1861 should be taken as said by him as the representative of the Council, and he had no cause of complaint that the subject had not been introduced on the present occasion by any other member of that body. It was, however, a matter of some difficulty, and required a peculiar organisation. The present Council was near the end of its year of office, and he thought, having drawn up the cardinal features of the plan, those who would have to deal with the affairs of the Society in the ensuing year would most probably deal with this subject of the Exhibition of 1861.

Mr. HENRY THOMAS HOPE said, up to this time they had had toasts which were more especially connected with the proceedings which had taken place during the day at the house of the Society; these, he must say, had been brought forward with a degree of eloquence which he had rarely heard excelled on such occasions. The toast he had to propose was of an abstract nature. It was that they should drink "Success to Arts, Manufactures, and Commerce," which was in itself a subject which even the most eloquent and powerful orators would find it difficult to do justice to within the limits of a speech on an occasion like this. He presumed this toast had arisen from the title which this Society bore. It had been called, for many years, "The Society for the Encouragement of Arts, Manufactures, and Commerce," and he believed the origin of that title dated from a time when Art was less understood and less appreciated than it was in the present day. The noble chairman had enlarged far more eloquently than he could do on the encouragement that art experienced in the present day, and he apprehended that now the duties of the Society were not so much connected with the encouragement of that which might be called high and abstract art, as with the peculiar application of art to manufactures and commerce. He recollected the time—and it was at no very remote period—when gentlemen of the highest eminence in art thought it was, to a certain degree, a compromise of their dignity to ap-

ply the principles of high art, in any degree, to the improvement of manufactures. They had, he thought, lived to see the day in which what he might venture to call a wider and more liberal view of things had prevailed; but the arts of sculpture, painting, architecture, and all high arts had formerly largely depended upon this Society for encouragement and promotion, and what they all delighted to see was the application of those arts to the promotion of commerce and manufactures. He believed it was owing in a great degree to this Society, and to gentlemen connected with it, that the country now had a Department of Science and Art. They knew, moreover, how much advantage the public had derived from the amount of education afforded by this department, as well as by the Society of Arts, to the class of artisans and manufacturers. At the same time, they must not imagine that they had nothing further to learn, and that they had arrived at the highest point in the application of art to matters of ordinary manufacture; nor must they flatter themselves that they had outstripped their neighbours. It was true they had made great strides, at the same time he believed the manufactured products of this country were, after all, made more with a view to supply the million than to accomplish great excellence in individual specimens. He had ventured to say those few words upon this subject as introductory to the toast which he had the honour to propose, and he would now give them—"Success to the Arts, Manufactures, and Commerce of the country," coupled with the name of Mr. John Dillon.

The toast was drunk with loud cheering.

Mr. DILLON briefly responded. Arts, Manufactures, and Commerce! These were large subjects to embrace; but this Society, he apprehended, sought chiefly to bring them together—to connect and form for them a means of communication and a point of union. The table at which he sat was inscribed "The Fine Arts and Architecture." But was not architecture itself a fine art? He now saw near him Mr. Owen Jones, and, when he looked at the magnificently "fretted roof" above him, he felt no difficulty in admitting that it was so. All the branches entertained by this Society—Art, Manufacture, and Commerce—varied as they might be, had one common object—the improvement of man and the amelioration of society; and, on the part of the supporters of each, having been called upon so to do, he begged to acknowledge the honour which had been done them.

The MASTER OF THE MINT then proposed "The Health of Chairman," which was received with loud cheering.

The CHAIRMAN said:—Gentlemen,—You have heard me already with so much patience upon the proper subjects of the evening; there have been so many good observations since, and the evening is now so far advanced, that I am happy to think I need not detain you longer; but thanking you from my heart for the cordiality of my reception, I can assure you, with all truth, that I estimate as I ought the honour of having presided upon such an occasion and over such a meeting. (Loud applause.)

## ANNUAL GENERAL MEETING.

WEDNESDAY, JUNE 30, 1858.

The Annual General Meeting for receiving the Council's Report, and the Treasurers' Statement of the Receipts, Payments, and Expenditure during the past year, and also for the Election of Officers, was held on Wednesday, the 30th inst., at 4 p.m., C. Wentworth Dilke, Esq., Chairman of Council, presided.

The Chairman, in opening the proceedings, said, that by the bye-laws, he was directed to

nominate two gentlemen to act as scrutineers of the ballot for the election of officers. He would ask Messrs. W. Atkinson and P. L. Simmonds to undertake that office.

These gentlemen having consented to act, the Chairman declared the ballot open. He then called upon the Secretary to read the

## ANNUAL REPORT.

In compliance with the terms of the Charter the Council now lay before the members the annual report of their proceedings.

### EXEMPTION FROM RATING.

The first subject in order of time is the Bill for amending the laws relating to the exemption of Mechanics' Institutions and other like Societies from local rates, which, at the date of the last report, was before the House of Commons. This Bill had been brought before the House of Commons at the instance of the Council, in compliance with the wishes of the Institutions in Union. The Bill was not passed; and under the circumstances detailed in the Secretary's report, read last Thursday to the Conference, and already published in the *Journal*, it has not been thought advisable to bring the subject forward again before the House.

### BYE-LAWS.

In November last, when the Bye-laws relating to the appointment of the Board of Examiners came to be acted upon for the first time, it was found that they were not in accordance with the Charter, and the Council therefore suspended action upon them, and took steps for at once calling a general meeting of the Society for altering them, so as to place them in harmony with the Charter. Accordingly on the first day of December a special general meeting was held, and new Bye-laws, proposed by the Council in reference to the appointment of Examiners, were passed unanimously. A full report of this meeting will be found at p. 31 of the present volume of the *Journal*. The Council lost no time in acting upon their amended laws, and appointed a Board of Examiners, who have just completed most satisfactorily the Examinations of the present year.

### COMMITTEES.

During the year the Council has sought and obtained the services of several committees on matters of considerable importance.

The subject of Gutta Percha, its great and growing importance in arts and manufactures, has for some time past attracted considerable attention in reference to its quality, purity, and its liability to decay under certain conditions. The Council have appointed a committee to investigate this subject, and to collect facts in reference to the sources of supply of gutta percha, its cultivation,—as well as the circumstances and conditions under which it

resists or yields to decay. This Committee has met several times, and has, for the purpose of obtaining facts in connection with this subject, addressed a circular of queries to all, whether in this country or abroad, who are likely to be able to furnish them with information.

Her Majesty's government have undertaken to circulate these queries among the residents in such districts as the Committee have pointed out as likely to have it in their power to supply the information. The East India Company have also most readily consented to act in the same manner as regards their territories.

The East India Company have, at the same time, furnished the Committee with specimens of a substance called "Pauchontee," the product of a tree of the same genus as that from which the gutta percha is produced. It remains to be seen whether this substance can be used as a substitute for, or in conjunction with, the true gutta percha. Experiments to determine this, as well as the nature and causes of the decay or failure in gutta percha, and the nature and effect of adulteration of it, will be undertaken by this Committee. Indeed, a series of experiments have been already devised, and will be commenced forthwith. The Council have much pleasure in recording the liberality of Messrs. Ford Barclay and Edward Highton, and the Submarine Telegraph Company, who have contributed, the two former £25 each, and the latter £10 10s., to assist in defraying the cost of these experiments. This Society naturally feels considerable interest in this subject, the first specimens of gutta percha introduced into this country having been sent here, and the Society's gold medal having been awarded to Dr. Montgomery for its introduction. The labours of this committee must necessarily extend over a considerable period of time, in order to practically test the substance under various conditions, and it is reasonable to expect that very valuable information will ultimately result from them.

The Dutch Government are at present turning their attention to the supply of this article from their possessions in the East, and have sent out a distinguished naturalist to explore those regions in search of it. A specimen of Gutta percha, the produce of Surinam, has been sent to the Society from one of its corresponding members, Dr. Bleekrode, of Leyden.

The subject of Artistic Copyright has been investigated by another Committee appointed by the Council. This Committee has Sir Charles Eastlake, P.R.A., for its Chairman; Mr. J. L. Lewis, late president of the Society of Painters in Water Colours, its Deputy Chairman, with Mr. D. Robertson Blaine, barrister-at-law, for its Reporter, and is composed of eminent Painters, Sculptors, Architects, Photographers, Engravers, Purchasers, Publishers, and others interested in works

of Fine Art. At the request of the Committee, Mr. Blaine drew up a very useful statement in reference to the existing state of the law as affecting copyright on Works of Art, which the Council published and circulated. Queries were also circulated for the purpose of eliciting facts, illustrating the grievances under which artists and the public laboured in consequence of the defective state of the law. These queries soon brought the Committee a considerable amount of information, and they at once proceeded to deal with it. The result was a valuable report, already published in the *Journal*, p. 293, suggesting those remedies to be sought for from the legislature, and these have been embodied in a proposed Bill. A petition, under the seal of the Society, in favour of an amendment of the law of Artistic Copyright, as well as one signed by eighty leading painters, sculptors, architects, purchasers, publishers, and others interested in the Fine Arts, were yesterday placed in the hands of Lord Lyndhurst, who has kindly undertaken to present them to the House of Lords, and move for the appointment of a Committee to inquire into the question, with a view of legislating upon it. Whether this can be accomplished during the remainder of the present session is doubtful, but the subject will come forward early in the next. There are considerable difficulties in dealing with this matter, but the labours of the Society's Committee, the discussion which has there taken place upon every point amongst men so qualified to treat it in all its bearings, resulting in the adoption of a report most carefully considered, cannot fail to have placed the matter in a position more favourable for practical legislation than it has hitherto attained.

The Council has also appointed a Committee to investigate the subject of Mechanical Contrivances applied to Medicine and Surgery—to promote improvement in their production—to determine and make known desiderata—to examine and report on the merit of apparatus submitted, and to recommend rewards for successful inventions. This Committee is presided over by Mr. James Luke, F.R.S., and is composed of a large number of eminent physicians and surgeons. They have divided themselves into sub-Committees under the following heads:

General Medicine.

General Surgery.

Dental Surgery.

Obstetric Surgery.

Ophthalmic Surgery.

Orthopædic Surgery.

Philosophical Apparatus, applied to the investigation and treatment of disease.

Veterinary Surgery.

Dr. Watson, Dr. Budd, and Messrs. Henry Charles Johnson and Richard Partridge, have been chosen Deputy-Chairmen, with Messrs. F.

Seymour Haden and Mitchell Henry, as Reporters of the Committee.

The importance of the establishment of Suburban Galleries of Science and Art has engaged the attention of the Council, who have appointed a Committee to investigate the matter, and report on the practicability of forming such galleries, and supporting such collections not only in suburban districts but in the provinces. This Committee will shortly make its report.

Three years ago the Council appointed a Committee in reference to the expediency of the establishment of a Small Parcels Post. That Committee held several meetings, and by permission of the Postmaster-General, had the opportunity of personally inspecting the arrangements for the receipt and sending out of the letters. The Committee had agreed on the principles of its report, but for reasons which it is unnecessary for the Council to enter upon here, it was considered advisable not to bring the matter forward at that time. The Council have this Session re-appointed that Committee, which has since made its report, and instructions have been given for its publication in the *Journal*. The subject is one of great interest to the public at large, and the Council have decided on inviting the Institutions in Union to express their opinion as to whether the Council should urge upon the Post-office authorities the adoption of the system.

A sum of £20 was, during the session, placed in the hands of the Council by the Rev. F. Trench and J. MacGregor, Esq. (to which the Council added the Society's Medal), to be awarded as a Prize for a Writing Case, suited for the use of soldiers, sailors, emigrants, &c. The attention of the competitors was called to lightness, smallness of size, the avoidance (if possible) of fluid ink, durability, cheapness with a guaranteed supply, and general applicability to the duties, habits, and requirements of the above classes. Sixty-two cases were received in competition, but the Council regret that, after a careful examination of them, none appeared to possess sufficient merit to justify them in awarding the prize.

The Council have determined to invite a further competition, and the conditions will be shortly announced.

During the last few days the Council has had communicated to them a process, the invention of an Englishman, for the production of the metal Aluminium, at a very reduced cost, such a cost, indeed, as will enable the metal to be brought into the market at a price which would admit of its being largely used, either in substitution of higher-priced metals, or for purposes to which such metals now are inapplicable by reason of their weight. A small committee has been appointed to investigate the process and report on its efficiency. It is needless for the Council to dwell on the importance of

the cheap production of a metal possessed of such valuable qualities as Aluminium.

#### FINANCIAL PRIZE ESSAY.

The Society will recollect that one of its members, Mr. Henry Johnson, some time since, placed in the hands of the council the sum of two hundred guineas as a prize to be awarded for "The best essay on the present financial position of the country as affected by recent events, in which the principle of a sinking fund should be discussed, and also an investigation made as to the best mode of gradually liquidating the National Debt." Twenty-two Essays have been sent in competition. The Council appointed three adjudicators to award the prize. Professor Charles Neate, of Oxford, Professor Waley, of University College, London, and Mr. J. T. Danson, Fellow of the Statistical Society. The Council had hoped that they might have been enabled to have reported the results of these gentlemen's labours, but there still remain some essays to be read, and the decision is therefore delayed. The award will, however, be made shortly, and as soon as it is, the decision will be announced in the *Journal*. The Council cannot quit this subject without reporting the continued liberality of Mr. Johnson, who has placed in the hands of the Council a further sum of seventy-five guineas for the purpose of placing in the hands of each adjudicator a fee of twenty-five guineas for his trouble in deciding on the merits of the competing Essays.

#### MARINE ALGÆ PRIZES.

The Council, in their report of last year, informed the members that prizes of £50 and £20 respectively, had been placed in their hands by Sir W. C. Trevelyan, Bart., to be awarded for "The two best and approved Essays on the applications of Marine Algæ and their products, as food or medicine for man and domestic animals. Competitors must give the results of their original investigations on sea-weeds (especially on the chemistry of their nutrient principles); and they must prepare a series of specimens illustrative of the best modes of collecting, preserving, and preparing the nutritive species in a state fit for food. Mere compilations will not be admitted to competition." The Council regret to say that at the time appointed no essay was sent in. Dr. McGowan, of Ningpo, in reference to this subject, presented to the Society a series of specimens of algæ, as prepared for use by the Chinese. A notice of them appeared in the *Journal*. An interesting communication, by Mr. P. L. Simmonds, on the Economic Uses of the Marine Algæ, will be found at p. 362, in the last volume of the *Journal*.

#### COLONIES.

During the past session the Council have received from the Chamber of Commerce in West-

ern Australia specimens of dried raisins and olive oil, the produce of that colony. Both have been reported upon by gentlemen engaged in the importation of such articles, and they are pronounced to be of a high character.

#### ADDRESS TO H.R.H. THE PRESIDENT.

On the occasion of the marriage of Her Royal Highness the Princess Royal with His Royal Highness the Prince Frederick William of Prussia, the Council called upon the Society and the Institutions in Union to join in an address of congratulation to His Royal Highness the President. The address, with upwards of ten thousand signatures attached to it, was presented to H.R.H. by a deputation of about two hundred members of the Society and Presidents of the Institutions in Union, headed by Mr. C. Wentworth Dilke, the Chairman of the Council. His Royal Highness was pleased to receive the Deputation most graciously, and to make a reply which has already been published in the *Journal*.

#### EXHIBITION IN 1861.

The Council have had under their anxious consideration, at several meetings specially summoned, the benefits to be derived from periodical Exhibitions of Industry and Art, and have come to the following resolutions:—

The Council of the Society of Arts, bearing in mind the part which the Society took in originating the Great Exhibition of 1851, have considered it to be their duty carefully to examine various suggestions for holding an Exhibition in 1861, which have been submitted to them, and have resolved:—

1. That the institution of Decennial Exhibitions in London, for the purpose of showing the progress made in Industry and Art during each period of ten years, would tend greatly to the "Encouragement of Arts, Manufactures, and Commerce."

2. That the first of these exhibitions ought not to be a repetition of the Exhibition of 1851, which must be considered an exceptional event, but should be an Exhibition of works selected for excellence, illustrating especially the progress of Industry and Art, and arranged according to classes, and not countries; and that it should comprehend Music and also Painting, which was excluded in 1851.

3. That Foreigners should be invited to exhibit on the same conditions as British Exhibitors.

4. That the Council will proceed to consider how the foregoing resolutions can be best carried into effect.

After publishing these resolutions, the Council did not consider it necessary, as their year of office was nearly expired, to take further steps, being of opinion that such steps devolved more appropriately on their successors.

#### EXHIBITION OF INVENTIONS.

The Tenth Annual Exhibition was opened on Easter Monday, and the Council have great pleasure in informing the members that the Exhibition was of an improved character, and that a much larger number of Exhibitors came forward than in previous years. The Exhibition was visited by upwards of five thousand persons.

#### CONVERSAZIONI.

Two Conversazioni have been held during the session, one at the Society's House, during the Exhibition of Inventions, and the other at the South Kensington Museum. This latter was attended by members and their friends, ladies as well as gentlemen, and two thousand two hundred and eighty persons were present. The Council have taken occasion to address to the Lords of the Committee of Council on Education, under whose charge the Museums at Kensington are placed, a letter, in which they availed themselves of the opportunity to state how highly, on public grounds, and in the interests of "Arts, Manufactures, and Commerce," the Society appreciates the wise liberality which has characterised the regulations laid down by the Committee of Council in respect of the public uses of the Museum at South Kensington, open on certain evenings of each week to the general public, free of charge; on certain other evenings of each week it may be visited at a small expense by Societies which promote Art, Science, or Education.

The creation and maintenance of museums and similar establishments, at the expense of the public, can only be justified when they are open as fully and freely as possible to the use of the public; and there are large masses of persons, quite capable of profiting by visits to museums, who are practically debarred from using them if they are closed during the evening. The Council expressed its earnest hope that the success of the great experiment which their Lordships had tried, might lead to the adoption of the same wise liberality in other departments.

#### MULREADY DRAWINGS.

The members of the Society may be reminded that a few years since the Society of Arts proposed to assist in the formation of a National Gallery of Art, and to raise funds for that purpose by holding annually an exhibition of the works of some one living artist. At that period there were few if any pictures of living artists in the National Gallery. Mr. Vernon, Mr. Turner, and Mr. Sheepshanks, had not then presented collections. In 1848, the works of Mr. Mulready, R.A., were exhibited by the Society, but the surplus funds, after the payment of the expenses, did not amount to a sum sufficient for the purchase of a picture by Mr. Mulready, as had been intended in the first instance.

Mr. Mulready, in the course of the present session, has, however, with great liberality, presented to the Council three drawings from the life, two in chalks and one by the pen, in return for the surplus which was handed to him, a sum wholly inadequate as representing the value of the drawings, which by competent judges are pronounced to be studies which have been rarely equalled in modern times. The Council offered

them to the trustees of the National Gallery upon the following terms, viz., "That when they are not publicly exhibited in London, they may be lent by the trustees to Local Schools of Art for limited periods, for the purposes of instruction, under such restrictions as the trustees may consider necessary."

The trustees, however, did not feel themselves in a position to accept the drawings on those conditions, and the conditions were therefore withdrawn. The drawings were thereupon accepted by the Trustees, and are now exhibited with other works of the British School at Marlborough House.

#### MEDALS.

The Council, under the advice of their Committees, have awarded the following medals:—

To Mr. William Williams, for his "Machine for Cutting and Dressing Stones for Building Purposes." *The Society's Silver Medal.*

To Mr. J. W. Wilson, for his "Combination of the tubular gouge and disc-paring tool for wood-shaping machinery." *The Society's Silver Medal.*

#### EVENING MEETINGS.

The evening meetings during the session have been well attended. The Papers read, and the subsequent discussions, have been of a character which will bear comparison with any previous session. It is needless to enter into further particulars in regard to them, as the papers have all appeared in the Society's Journal.

The Council have awarded the following medals:—

To Dr. J. Forbes Watson, for his Paper "On the Composition and Relative Value of the Food Grains of India." *The Society's Silver Medal.*

To Mr. John Underwood, for his Paper "On the History and Chemistry of Writing, Printing, and Copying Inks, and a new plan of taking manifold copies of written and printed documents, &c." *The Society's Silver Medal.*

To Mr. J. Algernon Clarke, for his Essay\* "On the Application of Steam-power to the Cultivation of the Soil." *The Society's Silver Medal.*

To Mr. Wm. Stones, for his Paper "On New Zealand and its Resources." *The Society's Silver Medal.*

To Mr. A. G. Findlay, for his Paper "On the Progress of the English Lighthouse System." *The Society's Silver Medal.*

To Mr. F. R. De la Tréhouais, for his Paper "On the past and present of French Agriculture." *The Society's Silver Medal.*

To Professor John Wilson, F.R.S.E., for his Paper "On Canada: its Productions and Resources." *The Society's Silver Medal.*

\* This Essay was sent in competition for the Medal offered in the Society's Premium List.

#### UNION OF INSTITUTIONS.

For the particulars of what has been doing in this branch of the society's action, the Council must refer the members to the report of their Secretary, read to the conference on Thursday last, and published in last week's *Journal*. The Council congratulate the Society on the satisfactory results of the Examinations which have just taken place, the statistics of which are already before the members. A Prize Fund, amounting to £222 17s., has been subscribed during the present year, a list of the contributions to which fund has already been published, and will be found at page 399 of the present volume of the *Journal*. The Council, in the name of the Society, tender their best thanks to those gentlemen for their liberality.

#### FINANCE.

Appended to this Report are the annual accounts of the Society, which are already in the hands of members, having been, in accordance with the Bye-laws, published in last week's *Journal*.

It will be observed that the present account differs in regard to one item from the form hitherto adopted, and the change has been made because in the opinion of the Council the present statement gives a more just view of the finances of the Society.

In former years, in ascertaining the income of the Society for the year, it had been usual to take a certain proportion of the subscriptions in arrear, and add them to the receipts proper for the year. Seeing, however, that there must always, at the time of taking the accounts, be arrears, it has been thought the fairest and simplest plan to adopt the sum actually received as the income for the year. This has now been done, the amounts in arrear being entered in the inner margin and not carried out. The income, therefore, appears smaller than it would have done had the form used in former years been adopted. The result shows a balance of expenditure over receipts of £48 11s., instead of a balance the other way of several hundred pounds. It must not be imagined, however, that because there is a small balance of expenditure over receipts that the Society is in reality exceeding its income, for it will be seen that one item on the expenditure side of the account is £250 paid in discharge of the last instalment on the debenture due to the Messrs. Twining. The Society is now free from debenture debt. The statement of assets and liabilities shows the improved position of the Society; the excess of assets over liabilities in May, 1858, being £3,953 2s. 5d., as compared with £3,140 4s. 2d., in May, 1857. A portion of this increase is derived from the fact that the Acton Trust, £536 3s. 10d., has been released from its special object, and is now available for the general purposes of the Society. The higher price of Consols this year

as compared with last, also tends to swell the amount.

While the Council point with satisfaction to the present financial position of the Society, they desire to call the attention of the members to the fact, that there has been a decrease in the actual number of members on the books, arising not so much from an increase in the proportion of those who, from death or otherwise, cease to be connected with the Society, as from a smaller number of members having during the past year been added to the list. The Society has never been more active, and the Council invite the members generally to use their best exertions to increase the number on the Society's register.

Though not strictly belonging to the financial statement of the present year, and not included in it, the Council cannot pass over in silence the bequest of £100 made to the Society by the late Richard Horsman Solly, Esq., one of the oldest, and, until of late, one of the most active members of the Society. This legacy, less 10 per cent. duty, has been received since the closing of the accounts. A notice of Mr. Solly appeared in the *Journal* at the time of his death, which renders it unnecessary now to repeat what was then said.

The Secretary then read the Treasurers' Statement of the Receipts, Payments, and Expenditure during the past year, which was published in the last number of the *Journal*, page 498.

Mr. EDWARD HIGHTON moved the adoption of the report, which was seconded by Mr. C. MASTERS.

Mr. F. LAWRENCE said, he wish to propose an amendment, to the effect that the meeting, while adopting the report, desired to express a hope that in the next session more attention would be devoted to the encouragement of Arts, Manufactures, and Commerce, than, as he gathered from the report which had just been read, had been the case during the session just closed. He considered, looking at the balance-sheet, that too large a portion of the funds of the society had been devoted to the educational branch. He did not object to education forming one of the Society's objects, but he thought it ought not to engross so large a portion of its attention and funds. The energies of the council seemed to be almost entirely devoted to this subject, whilst the promotion of arts, science and manufacture was left almost exclusively in the hands of the committees. As an illustration, he would refer to the small sum spent by one of these committees—that engaged upon the subject of Gutta Percha, which he believed had only met once, and had done little or nothing.

Mr. EDWARD HIGHTON, as Chairman of the Gutta Percha Committee, could not allow this statement to pass uncontradicted. The Committee had held many meetings, and had prepared and circulated, extensively, both at home and abroad, such papers as they considered necessary for obtaining the information they desired. They had already received valuable information from the East India Company and other sources, and had arranged a series of experiments which would probably extend over several years.

Mr. HARRY CHESTER said that, so far from the subject of education occupying the whole attention of the Council, he, for his own part, being specially interested in that

question, often found it extremely difficult to obtain the ear of the Council when desirous of bringing forward matters relating to it, so much was their time taken up with the other objects of the Society. He might point to the resolutions passed in reference to the intended Exhibition in 1861, the discussion upon which alone had, he could assure them, taken up the whole of several unusually prolonged Council meetings.

The CHAIRMAN gave an account, in some detail, of the proceedings of the several committees, through which means only was it possible that the multifarious objects of the Society could effectually be carried out. He drew particular attention to the Artistic Copyright Committee, which had held fourteen meetings, and the importance of whose labours could hardly be overrated.

Mr. P. L. SIMMONDS called attention to the important influence which was exercised by the society through its Premium List. He had thought in former years with Mr. Lawrence, that the Society had devoted an undue share of attention to the subject of education, but he was of opinion that during the past session this charge could not fairly be brought against the council. He was aware how much had been done with a view to obtain information in reference to the products of our Colonies, and if the circulation of the Premium List failed to elicit that amount of response which might have been reasonably anticipated—the council were certainly not to blame. Bearing in mind the peculiar circumstances in which the present council and its chairman had been placed at the commencement of the session, he thought, for his part, that they had done their work well, and he was sure the Society would feel that great praise was due to them.

Mr. LAWRENCE said that nothing was further from his intention than to raise dissension in the meeting. He had only brought forward his amendment in order to afford opportunity for discussion, and he now desired to withdraw it.

The CHAIRMAN then put the motion to the meeting, when the report was unanimously adopted.

Mr. THOMAS WINKWORTH said he believed he was the oldest member of the Society present, and having had the opportunity, as one of its vice-presidents, of observing the zeal and intelligence with which the Chairman of Council had performed the duties of his office, he thought the meeting ought not to separate without expressing their thanks to him in a formal resolution.

The CHAIRMAN here interposed, stating that he thought the course Mr. Winkworth was taking was irregular, and tended to establish an undesirable precedent.

Mr. WINKWORTH thought the peculiar circumstances of the case justified him in pressing the motion; he should therefore move

That the cordial thanks of this meeting be given to C. Wentworth Dilke, Esq., Chairman of Council, for his valuable services and unremitting attention to the interests of the Society during his period of office.

Mr. MATTHEW MARSHALL, in seconding the resolution, desired to take the opportunity of his own retirement from the Council to bear his testimony to the very remarkable manner in which their chairman had devoted himself to the interests of the Society.

Mr. HARRY CHESTER desired to express his cordial concurrence in this resolution.

Mr. F. LAWRENCE wished also to express his high appreciation of Mr. Dilke's valuable services to the Society.

Mr. ATKINSON spoke to a similar effect.

Mr. WINKWORTH then put his motion to the meeting, and it was carried by acclamation.

The CHAIRMAN acknowledged the compliment which had been paid him.

It was then moved, seconded, and resolved,

That it be recommended to the Council to present to each of the Institutions in Union, a copy of the speeches and ad-



dresses of His Royal Highness the Prince Consort, President of the Society.

It was then moved by Mr. R. WILLIAMS, and seconded by Mr. J. BELL SEDGWICK.

That the thanks of the Society be given to the Council for their services during the past year, and that this meeting desires to testify the satisfaction which the members derived from the Conversazione at the South Kensington Museum.

This resolution was then put to the meeting and carried unanimously.

The ballot having remained open one hour, and the scrutineers having reported, the Chairman declared that the following noblemen and gentlemen had been unanimously elected to fill the several offices. The names in *italics* are those of members who have not, during the past year, filled the offices to which they have been elected.

#### COUNCIL.

##### PRESIDENT.

H.R.H. PRINCE ALBERT, F.R.S., &c., &c.

##### VICE-PRESIDENTS.

Lord Ashburton, F.R.S.	Marquis of Lansdowne.
<i>W. H. Bodkin.</i>	The Right Hon. Sir J.
William Brown, M.P.	Pakington, Bart., M.P.
Harry Chester.	Sir Joseph Paxton, M.P.
Henry Cole, C.B.	John Scott Russell, F.R.S.
C. Wentworth Dilke.	Lord Stanley, M.P.
<i>William Fairbairn, F.R.S.</i>	Robert Stephenson, M.P.,
<i>Thomas Graham, F.R.S.,</i>	F.R.S.
<i>Master of the Mint.</i>	William Tooke, F.R.S.
Joseph Glynn, F.R.S.	Thomas Twining, Jun.
The Earl Granville, F.R.S.	Thomas Winkworth.
<i>Henry Thomas Hope.</i>	

##### OTHER MEMBERS OF COUNCIL.

Thomas Dyke Acland.	<i>Lieut.-Col. H. C. Owen,</i>
Thomas King Chambers,	<i>R.E., C.B.</i>
M.D.	Sir Thomas Phillips, F.G.S.
J. Griffith Frith.	<i>F. R. Sandford.</i>
Peter Graham.	Thomas Sopwith, F.R.S.
<i>W. R. Grove, Q.C., F.R.S.</i>	George Fergusson Wilson,
William Hawes.	F.R.S.
<i>George Moffatt, M.P.</i>	

##### TREASURERS.

J. C. Macdonald. | *W. Mackrell.*

##### AUDITORS.

J. G. Appold, F.R.S. | *Samuel Redgrave.*

##### SECRETARY.

Peter Le Neve Foster, M.A.

##### FINANCIAL OFFICER.

Samuel Thomas Davenport.

At the conclusion of the General Meeting, an Ordinary Meeting, specially called for the election of members, was held, at which O. Wentworth Dilke, Esq., Chairman of the Council, presided.

The following gentlemen were balloted for and duly elected members of the Society:—

Adé, George.	Johnson, Edmund Charles,
Arding, Charles Bennett.	M.D.
Clutton, Owen.	Johnson, Henry Charles.
Constable, Rev. W. J. R.	Luke, James, F.R.S.
Daniell, Richard Percival.	Simons, Edward.
Eddison, Edwin.	Vigers, Robert.
	Wingfield, Hon. Lewis S.

#### DECIMAL COINAGE.

The following table, with the subjoined explanations, has been communicated by Lieut.-General Sir Charles Pasley, K.C.B.:—

TABLE FOR REDUCING STERLING COINS TO THE NEW DECIMAL COINAGE.

Sterling.	Decimal.	Sterling.	Decimal.	Sterling.	Decimal.	Sterling.	Decimal.
S. d. f.	Fl. c. m.	S. d. f.	Fl. c. m.	S. d. f.	Fl. c. m.	S. d. f.	Fl. c. m.
0 0 10	0 11	0 10 5	12 0	11 0	13 0	11 5	1
0 0 20	0 21	0 20 5	22 0	21 0	23 0	21 5	2
0 0 30	0 31	0 30 5	32 0	31 0	33 0	31 5	3
0 1 00	0 41	1 00 5	42 0	01 0	43 0	01 5	4
0 1 10	0 51	1 10 5	52 0	1 11 0	53 0	1 11 5	5
0 1 20	0 61	1 20 5	62 0	1 21 0	63 0	1 21 5	6
0 1 30	0 71	1 30 5	72 0	1 31 0	73 0	1 31 5	7
0 2 00	0 81	2 00 5	82 0	2 01 0	83 0	2 01 5	8
0 2 10	0 91	2 10 5	92 0	2 11 0	93 0	2 11 5	9
0 2 20	1 01	2 20 5	02 2	2 21 0	03 2	2 21 5	0
0 2 30	1 11	2 30 5	12 2	3 1 0	13 2	3 1 5	1
0 3 00	1 31	3 00 5	6 32	3 01 0	33 3	01 6	3
0 3 10	1 41	3 10 5	6 42	3 11 0	43 3	11 6	4
0 3 20	1 51	3 20 5	6 52	3 21 0	53 3	21 6	5
0 3 30	1 61	3 30 5	6 62	3 31 0	63 3	31 6	6
0 4 00	1 71	4 00 5	6 72	4 01 0	73 4	01 6	7
0 4 10	1 81	4 10 5	6 82	4 11 0	83 4	11 6	8
0 4 20	1 91	4 20 5	6 92	4 21 0	93 4	21 6	9
0 4 30	2 01	4 30 5	7 02	4 31 0	03 4	31 6	0
0 5 00	2 11	5 00 5	7 12	5 01 0	2 13	5 01 5	1
0 5 10	2 21	5 10 5	7 22	5 11 0	2 23	5 11 5	2
0 5 20	2 31	5 20 5	7 32	5 21 0	2 33	5 21 5	3
0 5 30	2 41	5 30 5	7 42	5 31 0	2 43	5 31 5	4
0 6 00	2 51	6 00 5	7 52	6 01 0	2 53	6 01 5	5
0 6 10	2 61	6 10 5	7 62	6 11 0	2 63	6 11 5	6
0 6 20	2 71	6 20 5	7 72	6 21 0	2 73	6 21 5	7
0 6 30	2 81	6 30 5	7 82	6 31 0	2 83	6 31 5	8
0 7 00	2 91	7 00 5	7 92	7 01 0	2 93	7 01 5	9
0 7 10	3 01	7 10 5	8 02	7 11 0	3 03	7 11 5	0
0 7 20	3 11	7 20 5	8 12	7 21 0	3 13	7 21 5	1
0 7 30	3 21	7 30 5	8 22	7 31 0	3 23	7 31 5	2
0 8 00	3 31	8 00 5	8 32	8 01 0	3 33	8 01 5	3
0 8 10	3 41	8 10 5	8 42	8 11 0	3 43	8 11 5	4
0 8 20	3 51	8 20 5	8 52	8 21 0	3 53	8 21 5	5
0 8 30	3 61	8 30 5	8 62	8 31 0	3 63	8 31 5	6
0 9 00	3 71	9 00 5	8 72	9 01 0	3 73	9 01 5	7
0 9 10	3 81	9 10 5	8 82	9 11 0	3 83	9 11 5	8
0 9 20	4 01	9 20 5	9 02	9 21 0	4 03	9 21 5	9
0 9 30	4 11	9 30 5	9 12	9 31 0	4 13	9 31 5	0
0 10 00	4 21	10 00 5	9 22	10 01 0	4 23	10 01 5	1
0 10 10	4 31	10 10 5	9 32	10 11 0	4 33	10 11 5	2
0 10 20	4 41	10 20 5	9 42	10 21 0	4 43	10 21 5	3
0 10 30	4 51	10 30 5	9 52	10 31 0	4 53	10 31 5	4
0 11 00	4 61	11 00 5	9 62	11 01 0	4 63	11 01 5	5
0 11 10	4 71	11 10 5	9 72	11 11 0	4 73	11 11 5	6
0 11 20	4 81	11 20 5	9 82	11 21 0	4 83	11 21 5	7
0 11 30	4 91	11 30 5	9 92	11 31 0	4 93	11 31 5	8
1 0 00	5 02	0 01 0	0 3	0 1 5	0 4 0	0 2 0	0

The above Table is intended for the general use of men of business and others, in the event of the decimal coinage being established; and may be comprised in a space of six inches in height by  $4\frac{1}{2}$  in width, of a convenient size, if printed on a card, to be hung up in shops or offices; or it may be printed on opposite pages of a small book, with the numeral figures of the same size as those of the columns of numbers of the "Ready Reckoner." But as the great advantage of decimal notation will be its very soon dispensing with the use of tables altogether, I shall annex the following—

#### RULES FOR REDUCING STERLING MONEY TO THE PROPOSED DECIMAL COINAGE, OFF-HAND, BY MENTAL ARITHMETIC.

You must first reduce your sterling money from shillings into florins and farthings, when there is an even number of shillings, or into so many florins, one shilling, and so many farthings, when there is an odd number of shillings, estimating each florin at 100 mills, and one shilling at 50 mills.

Thus, for example, 2s.  $2\frac{1}{2}$ d. will be equal to 1 florin 10 farthings = 100 mills + 10 farthings; and 3s.  $3\frac{1}{2}$ d. will be equal to 150 mills + 15 farthings; 12s.  $7\frac{1}{2}$ d. will be equal to 6 florins 30 farthings; 13s.  $10\frac{1}{2}$ d. will be equal to 650 mills + 41 farthings; 18s.  $4\frac{1}{2}$ d. will be equal to 900 mills + 18 farthings; and 19s.  $10\frac{1}{2}$ d. will be equal to 950 mills + 43 farthings.

It now only remains to reduce all the farthings in 1 shilling, from  $\frac{1}{4}$ d. to  $11\frac{1}{4}$ d., 47 in number, into their equivalent value in mils, which may be done by the following rule:—

All sums from  $\frac{1}{4}$ d. to  $2\frac{3}{4}$ d., or from 1 to 11 farthings inclusive, must be reckoned equal to the same number of mils, which each of them exceeds only by  $\frac{1}{4}$ th part of of its own value.

All sums from 3d. to  $8\frac{1}{4}$ d., or from 12 to 35 farthings inclusive, must be reckoned equal to the same number of mils + 1, that is, to from 13 to 36 mils, 1 being the correction necessary for reducing the farthings into mils.

All sums from 9d. to  $11\frac{1}{4}$ d., or from 36 to 47 farthings inclusive, must be reckoned as the same number of mils + 2, that is from 38 to 49 mils, 2 being the correction necessary in this case.

Hence, 2s.  $2\frac{3}{4}$ d. will be equal to 100 mils + 10 farthings, or to 110 mils.

3s.  $8\frac{1}{4}$ d. will be equal to 150 mils + 15 farthings = 150m. + 15m. + 1m., 1 being the correction necessary for reducing the farthings into mils. Total, 166 mils.

12s.  $7\frac{1}{4}$ d. will be equal to 600 mils + 30 farthings = 600m. + 30m. + 1m., 1 being the correction necessary in this case. Total, 631 mils.

13s.  $10\frac{1}{4}$ d. will be equal to 650 mils + 41 farthings = 650m. + 41m. + 2m., 2 being the correction necessary in this case. Total, 693 mils.

18s.  $4\frac{1}{4}$ d. will be equal to 900 mils + 18 farthings = 900m. + 18m. + 1m., 1 being the correction necessary in this case. Total, 919 mils.

19s.  $10\frac{1}{4}$ d. will be equal to 950 mils + 43 farthings = 950m. + 43m. + 2m., 2 being the correction necessary in this case. Total, 995 mils.

#### TYPE MAP.

A telegraphic map of Europe, entirely executed in typography, has been presented to the Society by Mr. R. Decker, of the Royal Printing Office, Berlin. It is the work of Mr. A. Mahlan, who is employed by Mr. Decker in the above establishment. It is remarkably clear and beautiful. The process by which it has been produced is described as follows:—The drawing of the map, made on paper, is blackened at the back with a carbonic tracing composition, and is placed, blackened side downwards, on a surface composed of quadrats, formed each by sixteen nonpareil squares, and by means of a point the lines are transferred to them. The quadrats over which the lines are traced are then exchanged for nonpareil type, cast with a face of points, and the coast line is formed by the inner portion of these points being cut away. The telegraphic lines are formed of brass rules, fixed in nonpareil type body, as a sort of legs, which can be inserted into the composition, when needed, by taking out the quadrat, the legs being so adjusted in length that the upper edge of the rule is level with the face of the type. The additional shading of the coast line is effected by the insertion of nonpareil type cast with points on the face. The names of places are inserted by means of type taking the place of the quadrats where required.

The effect produced is peculiarly good. How far this is ever likely to supersede the present methods of producing maps by engraving and transfer to lithographic stone, is questionable; no details as to the cost are given, and it seems very doubtful (however simple the process appears), whether the result can be satisfactorily produced except by a skilled workman, whose labour must be adequately remunerated.

#### SOUTH KENSINGTON MUSEUM.

During the week ending 26th June, 1858, the visitors have been as follows:—On Monday, Tuesday, and Saturday (free days), 2,928; on Monday and Tuesday (free evenings), 3,185. On the three Students' days (admission to the public 6d.), 939; one Students' evening, Wednesday, 104. Total, 7,156.

### Home Correspondence.

#### ELECTRO-MAGNETISM AS A MOTIVE POWER.

SIR,—In the paper read before the Society some time since, by Mr. Thomas Allan, this subject does not appear to have had fair play, either from the author of the paper or from the several gentlemen who took part in the discussion. Mr. Allan did not bring out in sufficient prominence his improvements in electro-magnetism, and in his mechanical appliances for the most effective application of the power obtained; consequently, the discussion was not directed, as it probably otherwise would have been, to the consideration of those points which most vitally affect the success of electro-magnetism as a motive power.

The remarks of the gentlemen who took part in the discussion could not be said to be altogether unfriendly, although they appeared to be generally of a depreciatory character. Perhaps, after all, this highly conservative spirit or strong bias in favour of existing systems, and to depreciate new inventions, may be one of the wise provisions of nature, inasmuch as inventors are stimulated to redouble their exertions much more effectually by opposition, than they would be by the most flattering encomiums passed upon their ingenuity.

Unfortunately, however, the discussion upon Mr. Allan's paper did not so grapple with the real merits of the subject as to show any points to which his attention might be directed, with a view to future improvements.

Mr. Hearder's remarks were principally directed to the law of the squares, but however desirable it may be as a theoretical problem to ascertain precisely in what ratio the magnetic power decreases by an increase of distance, still the solution of this problem had nothing whatever to do with Mr. Allan's paper.

Mr. Siemens is too great a lover of science intentionally to throw any impediment in the way of improvement. He, however, made an objection to Mr. Allan's mechanical arrangements, which does not appear to be very sound. He stated that a "serious loss of power resulted from the sudden stoppage of the armatures in their descent." A locomotive travelling at the rate of sixty miles an hour with a five feet driving wheel, will not only stop the motion of the piston, but reverse the motion nearly twelve times in a second. In Mr. Allan's machine the motion is stopped but not reversed, so that, in this respect, his machine has an advantage over the reciprocating motion of the steam piston, and it does not appear that Mr. Siemens' objection really has much weight, although it had its effect upon the audience.

Several of the gentlemen who took part in the discussion were anxious for data, to institute a comparison with the steam-engine in its highly improved state. This extravagant expectation cannot at present be gratified. Would it not be more reasonable to compare the most advanced electro-motive machine with the steam-engine when Watt took it in hand, and before he had found a Bolton to assist him with capital? Had Watt not found a capitalist, he might have died and made no sign, and the gigantic improvements resulting from his genius would have remained undeveloped.

The machine which Mr. Allan brought before the Society of Arts was the first of the kind which he constructed, and it necessarily has many of the imperfections of a first attempt. Mr. Allan has materially improved his mechanical and electrical arrangements, and I cannot but think there is here an excellent opportunity for some capitalist who may be ambitious to associate his name with the solution of one of the greatest practical problems of the age.

The question is confessedly a very great one, and admits of a division of labour, and if chemists would turn their attention to the discovery of a cheaper substance

to supersede the zinc in the battery, a material point would thus be gained.

I think the three following improvements may be justly claimed by Mr. Allan, though they were very much lost sight of in the discussion:—

1st. The application of the magnetic force direct and not tangentially.

2nd. The use only of the most powerful portion of the geometric curve formed by the rapidly decreasing magnetic power in proportion to distance.

3rd. The continuation of motion or stroke in the same direction over any required space by means of successive groups of magnets.

I am aware that these points cannot well be understood without an explanatory diagram, but I will endeavour to explain how a model might be constructed which would illustrate these three points.

Let us suppose that three groups of four magnets each will be sufficient for illustration. Cotton reels will very aptly represent magnets with the wire coil; four reels gummed on to a card placed in such a manner as to form a square, but not quite touching each other. Let three of these be formed to represent three groups of magnets, and place them in a frame, so that there shall be rather more than two inches between the first and second, and rather more than three inches between the second and third, numbering downwards. Pierce a hole in the centre of the square formed by each set of reels and pass a slight straight piece of wood, about the substance of a black lead pencil, but longer, through these holes. Cut out three cardboard circular discs, sufficiently large to extend over the ends of the four reels, forming a group, and through a hole in the centre of these discs pass the piece of wood, and place stops upon it by passing a short pin through it, or otherwise, so that the discs may not pass below these stops, but the stops must be made so as to pass through the card to which the reels are attached, and the stops must be so arranged as to distance, that when the discs are placed upon the rod, and the rod passed through the several groups of reels, the upper disc will be one inch above the upper group of reels, two inches above the second group, and three inches above the third group. The apparatus being thus arranged, let us suppose that the upper group of electro-magnets are magnetised, and attract and pull down the upper disc to the upper surface of the first group of magnets, when the electricity is cut off, and as this motion of the vertical rod brings the second disc within one inch of the surface of the second set of magnets, these are then magnetised, and pull down the second disc, and so on to the third, or any greater number of groups of magnets, and thus the motion is continued in the same direction, until any required length of stroke is obtained.

As the philosophy of common things is now so much talked of, I hope this familiar illustration will be excused, and the three principal improvements effected by Mr. Allan be made apparent. That is the direct action of the magnet upon the body attracted, that action only passing through the most powerful range of the magnetic influence, and thus economising battery power, the motion being continued in the same direction, through any given number of groups of magnets, until it is made to pass over a sufficient space to be mechanically useful.

I am, &c.,

ALEXANDER DOULL.

### Proceedings of Institutions.

CHATHAM.—The twenty-first annual report of the Committee of the Chatham, Rochester, Strood, and Brompton Mechanics' Institution states that while on former occasions they have been compelled to direct attention to its waning fortunes, they can now heartily con-

gratulate the members upon the success of their efforts, and can point to a vigorous and thriving Institution, which has enlisted in its support the sympathy and good wishes of the inhabitants of the several towns, and which they believe has not even reached the zenith of its power and influence, but which is destined in their opinion steadily, yet certainly, to advance. The past year has indeed been a most important one in the history of the Institution; its most pressing want, that of a suitable public lecture hall, having been supplied by private enterprise. From the time of the removal of the Institution to the premises at present occupied, its progress has been a very marked one,—the number of members has been nearly doubled, being in the first quarter 402, whilst in the last quarter the number was 670. The income has increased proportionably, and the Committee have consequently been enabled to provide a class of lectures and entertainments vastly superior to those hitherto given. The Committee take the opportunity of expressing the deep gratitude they feel to their distinguished president, Charles Dickens, for the invaluable service he has recently rendered to the Institution: not only has he placed at their service the influence of a name, "familiar as household words" to all true lovers of English Literature, but he has also, in addition, given a public reading for the benefit of the Institution, the proceeds of which, amounting to nearly one hundred pounds, the Committee have resolved to devote to the improvement of a long-neglected appliance of the Institution, by investing the amount, after the bookcases have been paid for, in the purchase of a large number of valuable and standard works, to be added to the existing library. The Committee feel that they shall be acting in accordance with the wishes of the members, and at the same time perpetuating, in the most enduring manner, the remembrance of the deep obligations they are under to their president. The Committee, at the same time, gratefully acknowledge the receipt of valuable presents of books from Mr. R. Winch, jun., Mr. Jas. Austin, Mr. Tidyman, and J. Drummond, Esq.

DARTMOUTH.—The committee of the Literary Institution, in presenting their report of its proceedings during the past session, state that they do so with feelings of unmixed satisfaction. In establishing a society of this kind, the second year is rightly considered the time of trial, and when there appears no falling off in the number of members, but, on the contrary, a marked increase, whilst that warm interest which was evinced by the town generally at the outset, is still continued, it may safely be concluded that the Institution has acquired sufficient strength to warrant the most sanguine anticipations of its permanence. A large increase has taken place in the number of subscribers, the number last year being 288, and in the present year 275. Many volumes have been added to the library, both by donation and purchase—and the number of periodicals and papers in the reading room has been considerably extended. At the same time the best attention of the committee has been given, not only to the economical expenditure of the funds, but also to the character and utility of the works introduced. Classes also have been formed, which the committee hope will yet receive fuller development, as they feel satisfied that the institution of classes constitutes one of the most useful spheres of operation in societies of this description; the attendance also on the lectures has been most satisfactory, showing an average of 165 persons at each lecture. The numerical increase has been chiefly amongst the ordinary and quarterly subscribers, for whose use, more especially, the reading room and library were required. The committee, taking into consideration that many persons join the Institution with the sole object of attending the lectures, have thought it necessary, in some cases, to avail themselves of the services of lecturers from a distance, men of known talent, who are in the habit of addressing large audiences. It is, however, a matter of regret that on all these occasions

the expenses of the evening have very considerably exceeded the receipts. The committee propose during the ensuing session to engage the services of such men as Mr. Pengelly, of Torquay, or Mr. Hearder, of Plymouth, to deliver consecutive lectures on popular subjects, esteeming such a course more advantageous and instructive than lectures on a variety of subjects. The very great success that has hitherto attended the Institution has however its difficulties; the society has, in fact, outgrown its present accommodation, and it is proposed to raise by subscription a sufficient fund to erect a building capable of affording the necessary lecture and reading rooms. The French class has been in operation since November last, under the supervision of Mr. St. Dalmas, and at present numbers sufficient members to render it almost self-supporting, so that it requires but little aid from the funds of the Institution. A class for the study of natural history in connection with the microscope is forming, and only requires a small contribution for incidental expenses from persons inclined to join, to commence operations forthwith. Through the kindness of some friends, a handsome microscope was twelve months since placed at the disposal of this class. An addition of 110 volumes has been made to the library; 26 of these were presented by Mr. Kensington, to whom the thanks of the society are due for his kindness on this as well as on many other occasions. Mr. Windeatt and the president have also been contributors of books. The issue of books for the past six months has been 2000.

## MEETINGS FOR THE ENSUING WEEK.

Mon.....Entomological, 8.  
Fri. ....Astronomical, 8.

## PARLIAMENTARY REPORTS.

## PRINTED SESSIONAL PAPERS.

Parl. No.

- Delivered on 22nd June, 1858.*  
129. Bills—Confirmation of Executors, &c. (amended).  
149. ——— Public Health (amended).  
*Delivered on 23rd June, 1858.*  
277 (1). Prideaux's Furnace-Valve Door—Return.  
328. Contracts (Public Departments)—2nd Report from Committee.  
115. Bills—Piers and Harbours.  
141. ——— Wills of British Subjects Abroad (No. 2).  
146. ——— Smoke Nuisance Abatement (Metropolis).  
151. ——— Chief Justice of Bombay.  
*Delivered on 24th June, 1858.*  
339. Brewers, &c.—Account.  
350. London Corporation (Receipts and Expenditure)—Return.  
314. Bed of the Sea, &c.—Return.  
150. Bills—Vaccination (Ireland) (amended).  
152. ——— Medical Practitioners (amended).  
*Delivered on 25th June, 1858.*  
68 (5). Trade and Navigation Accounts (31st May, 1858).  
332. Ballantine National Schools—Correspondence.  
333. Belfast Constabulary—Copy of Report.  
153. Bills—Sale of Grain, &c.  
143. ——— Four Courts (Dublin) Extension.  
*Delivered on 26th and 28th June, 1858.*  
31. Property Tax and Population, &c.—Return (a corrected Copy).  
351. Receipt and Draft Stamps—Return.  
359. Navy—Abstract of Returns.  
328. Colonisation and Settlement (India)—2nd Report from Committee.  
156. Bills—Letters of Credit.  
155. ——— County, &c., Property Conveyance.  
158. ——— Probates and Letters of Administration Act Amendment.  
159. ——— Divorce and Matrimonial Causes Act Amendment.  
160. ——— Herring Fisheries (Scotland).  
161. ——— New General Post-office (Edinburgh) (as amended by the Select Committee).  
*Delivered on 29th June, 1858.*  
354. East India (Deccan)—Return.  
349. Basins (Scotland)—Copies of Reports.  
361. Aldershot Hospital—Copy of Report.  
362. Accidents on Railways—Report from Committee.  
344. Harbours of Refuge—Report from Committee.  
118. Local Acts (36. Sunderland Dock Bill, No. 2)—Admiralty Report.  
157. Bill—Clerk of Petty Sessions (Ireland) (amended).  
The "Cagliari"—Further Correspondence.

*Delivered on 30th June, 1858.*

336. Metropolitan Board of Works—Returns.  
346. Army, &c. (Receipt and Expenditure 1856-7)—Account.  
162. Bills—Wills and Domicile of British Subjects Abroad, &c.  
163. ——— Copyhold Acts Amendment (amended).  
164. ——— Pauper Lunatics.  
154. ——— Bankruptcy and Insolvency.

## PATENT LAW AMENDMENT ACT.

APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[From Gazette, June 25, 1858.]

- Dated 1th May, 1858.*  
1022. W. Duff and J. Gilchrist, Liverpool—Imp. in apparatus for measuring water and other fluids, also capable of being used as a motive power.  
*Dated 21st May, 1858.*  
1138. W. Clark, 53, Chancery-lane—Imp. in the processes of treatment of peat, and of the hydro-carburets it contains, and in the apparatus for the same. (A com.)  
*Dated 25th May, 1858.*  
1168. P. Griffiths, Manchester-road, Burnley, Lancashire—Imp. in manufacturing bushes for fixing drums on shafts, and other similar purposes.  
*Dated 26th May, 1858.*  
1178. J. Luis, 18, Welbeck-street, Cavendish-square—An apparatus for cutting square-headed corks, and for corking bottles with the same. (A com.)  
*Dated 27th May, 1858.*  
1192. W. Clark, 53, Chancery-lane—Imp. in preserving butter. (A com.)  
*Dated 29th May, 1858.*  
1208. J. Shuttleworth, Stamp End Works, Lincoln—Imp. in portable and other steam-engine boilers.  
1210. W. Hodgson and H. Hodgson, Thornton-road, Bradford—Imp. in machinery or apparatus for preparing and spinning, or producing motley yarns from rovings of unequal thicknesses of wood or other fibrous substances.  
1212. S. Rockett and J. J. Reynolds, Strand—Imp. in the manufacture of umbrellas and parasols.  
*Dated 31st May, 1858.*  
1220. J. B. Thornder, Halifax—Imp. in carriages for children, commonly called "perambulators," which improvements are also applicable to invalid and other carriages.  
1222. G. K. Snow, Watertown, Massachusetts, U.S.—A new and useful machine for affixing postage stamps to letters.  
1224. H. Jaeger, Paris—Imp. in dyeing wool. (A com.)  
1226. J. Austin and J. Armstrong, Wellington, Salop—An imp. or imps. in the manufacture of coke.  
*Dated 1st June, 1858.*  
1228. A. Barchou, 22, Cranbourn-street, Leicester-square—A heel for boots and shoes.  
1230. A. G. Grant, New York—A method of preparing paper in order to render it waterproof, and adapted for the reception of photographic pictures.  
1232. R. W. Chandler, Bow, and T. Oliver, Hatfield, Hertfordshire—Imp. in agricultural apparatuses for ploughing and otherwise operating upon land.  
*Dated 2nd June, 1858.*  
1234. F. J. Candy, Haslemere, Surrey—Imp. in machinery for the manufacture of fishing and other nets.  
1236. J. Luis, 18, Welbeck-street, Cavendish-square—A new farming implement, called the gleaner. (A com.)  
1238. D. Service, Barrhead, Renfrew, N.B.—Imp. in apparatus for producing printing surfaces.  
1240. H. Brown, B. Hodgson, and J. Carter, Halifax—Imp. in machinery for introducing and withdrawing wires when weaving.  
1242. R. Roberts and W. Shaw, Heaton Norris, Lancashire—Certain imp. in looms for weaving.  
*Dated 3rd June, 1858.*  
1244. J. Meiklejohn, Dalkeith, N.B.—Imp. in boilers for heating water, and in valves for controlling and regulating the flow or passage of the same.  
1245. R. Owen, Manchester—Imp. in water-closets, night commodes, or similar conveniences, and also in disinfecting processes.  
1246. W. Clayton and J. Goodfellow, Blackburn—A certain imp. in pistons for pumps.  
1247. J. Bethell, 8, Parliament-street, Westminster—Imp. in the manufacture of alum.  
1249. A. V. Newton, 66, Chancery-lane—An improved manufacture of woven fabric, applicable chiefly where strength and duration are required. (A com.)  
1250. G. Dalton, Lynton—Imp. in furnaces for smelting the ores of iron and other minerals.  
1251. J. Mitchell, Dunning's-alley, Bishopsgate-street Without—Imp. in purifying paraffine.  
1252. R. Owen, Rotherham, Yorkshire—Imp. in the manufacture of railway wheel tyres, and in machinery employed therein.  
1253. H. Edwards, Dalston—An improved pipe stem or tube.  
1254. T. Wilson, Bradmore-house, Chiswick—Imp. in the construction of mangles.  
1255. J. Baron Von Liebig, Munich—Imp. in protecting the silvered surface of mirrors and other articles of glass.

*Dated 4th June, 1858.*

1256. W. Hargreaves and E. Haley, Bradford—Imp. in machinery or apparatus for preparing and combing wool, hair, silk, cotton, flax, and other fibrous substances.
1257. E. M. Stoehr, Manchester—Certain imp. in looms for weaving. (A com.)
1258. J. F. Dickson, 6, Russell-street, Litchurch, near Derby—Imp. in the permanent way of railways.
1259. V. Merighi, Paris—Means for preventing dust on rail-roads.
1260. V. Merighi, Paris—Means for impeding and exhausting fires on railway trains.
1261. T. Crick and J. T. Crick, Leicester—Imp. in the manufacture of boots, shoes, and slippers.
1262. R. Quin, 5, Rodney-street, Pentonville—Imp. in ordnance and fire-arms.
1263. R. A. Brooman, 166, Fleet-street—Imp. in preparing the fibrous portions of certain textile plants, and the employment thereof when prepared either along or in combination with articles already in use for the purposes of stuffing. (A com.)

*Dated 5th June, 1858.*

1265. J. Banks, Liverpool—An improved reaping machine.
1266. M. Page, Valdoie, near Belfort, France—A steam or power kneading apparatus.
1267. H. Carter, Manchester—Imp. in gas burners.
1268. C. Hancock, West Ham Gutta Percha Company, West-street, Smithfield—Imp. in the manufacture of electric telegraph cables.
1269. E. Cooke and G. Dickinson, Smethwick, Staffordshire—Imp. in the manufacture of metallic and other bedsteads, and other articles for sitting, lying, and reclining upon.
1270. R. Orr, Glasgow—Improved apparatus to be applied to various machines used in the manufacture of yarn or thread.
1271. A. Manbré, Rathbone-place—An improved method of preparing malt and other grain, and in preparing the saccharine matter therefrom, whether for the purposes of brewing, distilling, or otherwise.
1272. F. H. Whiteman, 28, Essex-street, Islington—Rendering paper hangings, for decorating the interior of houses, capable of being washed by soap and water without detriment to the colours thereof.
1273. W. Porter, 9, Lansdown-villas, Brompton—Imp. in artillery ordnance, and some other descriptions of fire-arms.
1275. G. Hadfield, Carlisle—Imp. in the protection of carboys or other vessels and packages.

*Dated 7th June, 1858.*

1276. E. Scotson, Clayton, and H. Charley, Grimehaw-street Foundry, Preston, Lancashire—Imp. in machinery connected with traction and other engines, and in endless railways, to be used therewith.
1277. J. Ferrabee, Thrupp, near Stroud—Imp. in machinery for cutting, collecting, and spreading grass, and for sweeping.
1278. J. J. Rowley, Rawthorne, near Chesterfield—Imp. in apparatus for applying lime, soot, and other matters to turnips and other crops, and manure to land.
1279. J. Boulenger, and L. J. Martin, Paris—An apparatus serving to the decomposing neutral fatty substances into fatty or oily acid and glycerine.
1280. J. M. Dunlop, Manchester—Imp. in apparatus for sizing fibrous materials.
1281. H. Wimbball, Aldermaston, Berkshire—Imp. in machinery or apparatus for destroying the turnip fly and other destructive insects on growing crops.
1282. E. Vigers, Paddington—Imp. in the manufacture of bricks and other articles moulded or formed from clays.
1283. J. B. A. Lombard and X. T. Esquiron, Paris—A new or improved method of obtaining saccharine substances from cereal and vegetable matters, and applying the products obtained to various useful purposes.
1284. R. Hicks, Chatham-place—The manufacture of a composition or compositions to be employed as black lead.

*Dated 8th June, 1858.*

1285. J. M. Dunlop, Manchester—Imp. in bowls or rollers used in machines for printing fibrous materials.
1287. I. Ketchum, 59, Canning-street, Liverpool—An improved self-acting perforated baster.
1289. R. A. Brooman, 166, Fleet-street—Imp. in the manufacture of copper pipes and tubes. (A com.)
1291. A. Robertson, Sheffield—Imp. in stoves or fire-grates.
1293. D. Irons, 6, Cornwall-terrace, Creek-road, Deptford—Imp. in the mariners' compass.
1295. A. Rigg, senr., and A. Rigg, jun., Chester—Imp. in apparatus for tipping or upsetting coals, minerals, or other substances, and in brake machinery.

*Dated 9th June, 1858.*

1297. F. A. Gatty, Accrington—Imp. in dyeing cotton and other fibrous materials and fabrics.
1299. S. Lees, Salford—Imp. in the manufacture of tan or tanning, and in tanning hides to make leather.
1301. E. C. Grimshaw, Denton, Lancashire—Imp. in furnaces and steam boilers.
1303. C. F. Vasserot, 45, Essex-street, Strand—An apparatus for measuring and registering the flow of liquids. (A com.)
1305. P. Dumont, Southwark-square, Borough—Improved implements for distributing or applying powder.
1307. H. Rollinson, Stepney—An artificial fuel.
1309. J. Roberts, Upnor, Kent—An improved construction of reflector or cover for gas burners.
1311. J. Roberts, Upnor, Kent—An improved construction of stove.

*Dated 10th June, 1858.*

1313. T. W. Mellor and W. Jamieson, Ashton-under-Lyne—Certain imp. in looms for weaving figured fabrics.
1315. J. Luis, 1b, Welbeck-street, Cavendish-square—An improved thrashing machine. (A com.)
1317. J. Luis, 1b, Welbeck-street, Cavendish-square—An improved nose-bag for giving horses their oats, &c. (A com.)
1319. J. S. Crosland, Ashton-under-Lyne—Certain imp. in steam engines.
1321. G. Hall, Saint John's, Worcester—Certain imp. in cartridges.
1323. W. Wilkinson, Bayswater—Certain new textile and other combined fabrics and means of ornamenting fabrics and skins.
- Dated 11th June, 1858.*
1325. J. Gemmell, Belfast—Imp. in the manufacture of starch.
1327. L. A. Bigelow, 133, High Holborn—A new and improved machine for sweeping carpeted and other floors. (A com.)
1329. W. E. Newton, 66, Chancery-lane—Improved apparatus for supplying boilers with water. (A com.)
1331. L. F. Lenière, Canderan, France—Imp. in treating hemp or tow for the caulking of ships and vessels, parts of which improvements are applicable to washing and cleansing textile articles or fabrics impregnated with greasy or oily matters, and in the apparatus connected therewith.

*Dated 12th June, 1858.*

1335. J. Hall, Derby—An imp. in the slide valves of steam engines.
1337. A. Gibson, J. Pollock, and J. Martin, Stratford—Imp. in the construction of steam engine boilers and furnaces for effecting the prevention of smoke.
1339. A. V. Newton, 66, Chancery-lane—Improved machinery for cutting veneers. (A com.)

*Dated 14th June, 1858.*

1341. J. H. Young, 66, Great College-street, Camden-town—Imp. in setting up (composing) and distributing types.
1343. H. N. S. Shrapnel, Medway Manor House, Bradford—An imp. in preparing iron and other metals, or mixtures of metals, for and in casting the same in moulds.
1345. J. Hetherington, Store-street Mills, Manchester—Imp. in guides or clearers used in machines for winding, reeling, and clearing threads of cotton, silk, and other fibrous materials.
1347. J. C. Henderson, Albany, U.S.—Imp. in stoves.

*Dated 15th June, 1858.*

1349. L. C. S. Masson and F. de la Morinière, Paris—Imp. in the manufacture of woven fabrics with coloured patterns.
1351. G. Adshead, Staley New Mills, Staley-bridge, Chester—Imp. in steam boilers.
1353. W. P. Wilkins, Ipswich—Imp. in the arrangements and construction of refrigerating apparatus.
1355. H. S. Warner, Trinidad—Imp. in the manufacture of deco-lourizing and purifying charcoal.
1357. J. Rubery and T. Warwick, Birmingham—Imp. in machinery and tools for marking certain portions of umbrellas and parasols and lingoes.

*Dated 16th June, 1858.*

1359. G. T. Bousfield, Loughborough-park, Brixton—Imp. in apparatus to be used in the construction of small boats. (A com.)
1361. C. W. Lancaster, New Bond-street—An instrument or apparatus for charging cartridges for breech-loading arms.
1363. J. J. Cregeen, Plough-road, Rotherhithe—Imp. in the treatment of India and China grass, pine apple, hemp, flax, and other similar fibrous materials, and in the machinery or apparatus employed therein.
1365. J. C. Hill, Wildon Iron Works, near Abergavenny, Monmouthshire—Improved apparatus for ascertaining and indicating the height of water in steam boilers.
1367. G. Davies, 1, Serle-street, Lincoln's-inn—An improved equilibrium slide valve for steam engines. (A com.)

## INVENTION WITH COMPLETE SPECIFICATION FILED.

1360. B. Atwater, Connecticut, U.S.—An improved sewing machine. —16th June, 1858.

## WEEKLY LIST OF PATENTS SEALED.

<i>June 25th.</i>	
3168. A. Bruce.	769. Hon. W. Talbot.
3169. J. Barling.	900. W. Foster.
3178. T. Spencer.	901. A. Jenkin.
3189. J. D. Morrison.	910. J. Horton.
3198. G. Wilson.	937. W. E. Newton.
6. J. W. Clare.	972. J. H. Johnson.
8. R. Harvey.	992. W. E. Newton.
12. F. Walton.	
40. T. Rowell.	<i>June 25th.</i>
78. C. A. de Laire de la Brosse.	3187. F. Palling.
83. E. Wilson.	3188. T. Booth.
176. P. Ashcroft.	3190. J. O'Neill.
250. R. Aytton.	3192. J. Clinton.
450. R. S. Bartleet.	3195. H. Hanson.
506. A. V. Newton.	3. L. J. A. Brun.
633. W. Richards.	7. J. H. Johnson.
748. W. Nimmo.	71. R. J. Badge.
	977. W. Spence.

## PATENTS ON WHICH THE STAMP DUTY OF £50 HAS BEEN PAID.

<i>June 21st.</i>	
1431. W. Teall.	
1439. H. N. Penrice.	<i>June 25th.</i>
	1456. F. Leiss and C. Schneider.
	1458. M. Poole.
<i>June 22nd.</i>	1463. E. J. Hughes.
1480. A. E. L. Bellford.	